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Development of a New Measure of Helping at Work

by

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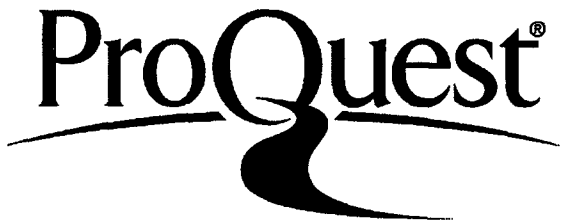

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ABSTRACT

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In this thesis, *helping behavior* is defined as extra role behaviors that an employee performs voluntarily and contributes to organizational effectiveness such as improved productivity and co-worker performance (Organ, 1988). People who help others at work tend to experience increased job satisfaction, increased organizational commitment and decreased intentions to leave the job. Taking into consideration the benefits of helping outcomes to both employees and organizations, I developed six scales that measure helping using a multi-stage item-development procedure. Based on a theoretical model distinguishing emotional- and instrumental helping, a multidimensional measure could not be developed. In this study, however, empirical support was found for two helping scales and criteria of interest. Future directions and implications of this study are discussed.

ACKNOWLEDGMENTS

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INTRODUCTION

In organizations, employees help their colleagues, even when that help is not part of any formal job description or work policy. To give a few examples, employees may volunteer to help others with extra task assignments that need immediate attention; they may find themselves consoling a distressed employee, or they may offer professional advice to another colleague. Helping behaviors like these often contribute to a recipient's job performance and an organization's effectiveness. Over the past 20 years, researchers have extensively examined helping behaviors under the conceptual umbrella of organizational citizenship behaviors (OCBs; Bateman & Organ, 1983; Organ, 1988; Smith, Organ, & Near, 1983). OCBs are defined as employee behaviors that are independent of formal or core job requirements (Organ, Podsakoff, & MacKenzie, 2006). Helping behavior is one critical form of OCB that provides an array of benefits (Bachrach, Powell, Collins, & Richey, 2006; Bowling, Beehr, & Swader, 2005; Deckop, Cirka, & Anderson, 2003; Ladd & Henry, 2000). Such benefits include increased employee and team performance, increased social support, and increased job satisfaction (Anderson & Williams, 1996; Bateman & Organ, 1983; Bowling et al., 2005).

In their review of the OCB literature, Podsakoff, MacKenzie, Paine, and Bachrach (2000) identify important areas for future research. The authors argue that examining different forms of OCBs can be important if they have distinct antecedents and outcomes that contribute to organizational success. As an example, previously studied antecedents such as trust, empathy, and support have been positively correlated with person-focused citizenship behaviors, whereas network centrality (i.e., employees' degree of access to other colleagues within emergent networks in an organization) was positively correlated

with task-focused citizenship behaviors (Settoon & Mossholder, 2002). In turn, these OCBs independently contribute to organizations, as interpersonal citizenship behaviors can affect employee satisfaction and commitment, and task-based citizenship behaviors can contribute to an organization's bottom line and lower rates of turnover (Settoon & Mossholder, 2002).

Over the course of OCB research, many concepts and taxonomies have evolved (George & Brief, 1992; LePine, Erez, & Johnson, 2002; Organ, 1990; Organ, 1997; Van Dyne & LePine, 1998). For example, Williams and Anderson (1991) introduced a two dimensional view of OCB behaviors that contribute to organizational success. The dimensions suggest that OCBs should be viewed as behaviors directed to an organization (OCB-O) and behaviors directed to an employee (OCB-I; Williams & Anderson, 1991). Coleman and Borman (2000) also re-conceptualized OCBs as three forms: Interpersonal, Organizational, and Job/Task performance, with this last form reflecting extra efforts taken by an employee to be more productive in their own job.

Although different conceptualizations of OCBs have been made, it is unclear, particularly at the individual level (vs. team or group level), whether specific dimensions of OCB dimensions are responsible for certain aspects of organizational effectiveness (Organ et al., 2006). Part of the reason is that the literature lacks refined OCB measures, thereby limiting empirical investigations that relate specific OCB dimensions to outcomes. Therefore, this thesis will examine and distinguish different forms of helping behavior within a model of OCBs.

Helping behavior has been examined extensively in organizational research, and is considered important for two major reasons. First, helping provides a viable means to

stimulate good interpersonal relationships with coworkers that influence effective organizational functioning. Second, it can also improve task efficiency in the workplace (Organ et al., 2006). Although helping others is not a formal part of an employee's job, helping contributes to how other employees function in the workplace, such as by sharing their work assignments, or providing comfort when discomfort may impede them from performing job duties. Thus, these helping behaviors contribute to the successful functioning of an organization. As an aspect of extra role behaviors, helping has been examined as interpersonal citizenship behaviors (ICB; Settoon & Mossholder, 2002), altruistic behaviors (Organ, 1988) and interpersonal helping (Moorman & Blakely, 1995). Regardless of whether one can consider these behaviors to be either completely distinct constructs or similar ones, these three classes of behaviors can be grouped under the same umbrella of helping behaviors specifically directed to co-workers in an organization (Settoon & Mossholder, 2002).

Helping coworkers, however, has been a construct so broadly conceptualized that it fails to consider why and how different forms of help lead to specific organizational outcomes (LePine et al., 2002). Similarly, the problem with using common measures of helping-based OCBs is that they measure helping in general, when distinctions between types of helping may be useful as important mediating variables between organizational antecedents and outcomes (Ng & Van Dyne, 2005; Podsakoff, Ahearne, & MacKenzie, 1997; Van Dyne & LePine, 1998). To clarify, the intention of this thesis is not to discuss the appropriateness of whether helping behavior can be directed to individuals (OCB-I) and organizations (OCB-O); helping behavior can clearly be directed to both. This thesis instead focused on helping behavior as a dimension of OCB and the dimensions within

the broad domain of helping. As such, the degree to which employees interact with each other and develop similar values of trust, cohesion and cooperative behavior informs organizations about employee perceptions of support that subsequently creates a climate in which the employees are likely to reciprocate with helping behavior (Patterson et al., 2005).

Helping Behavior

In the proposed research, helping behavior is defined as an aspect of extra role behaviors that an employee performs voluntarily that can potentially contribute to organizational functioning and employee effectiveness. This definition is adapted from George and Brief's (1992) and Organ's (1988) definition of helping behavior as extra-role behavior that an employee performs. Helping behaviors provided to the colleague of an employee can also be job related, interpersonally related or both. Furthermore, I also consider behaviors where coworkers help another without being physically present (e.g., communicating via e-mail).

Thus, the goals for this thesis were threefold: (1) to review the empirical findings of helping behaviors on organizational outcomes, (2) to discuss the importance of conceptualizing emotional and instrumental helping with theoretically based sub dimensions to support these two forms of help, and (3) to develop a new helping measure based on this conceptualization. This measure should be validated in future research in organizations.

Helping Behavior Outcomes

Both giving and receiving help can influence how well employees feel about and perform their jobs. When employees give help, performance on tasks (on part of the

receiver of the help) has been shown to increase dramatically (Cook & Wall, 1980; Eastman, 1994; Eisenberger, Fasolo, & Davis-LaMastro, 1990). Consequently, employees who provide help enhance both individual and group performance. Note that individual tasks may become team tasks as a result of helping behavior. When employees offer and receive their colleagues' help, feelings of cohesiveness, attraction, and the desire to work together may arise (Organ et al., 2006). Moreover, when employees work together and group cohesiveness is developed, the group's social norm of endorsing helping behavior becomes important as it is perceived to improve the effectiveness of the group (George & Bettenhausen, 1990; Ng & Van Dyne, 2005).

Examining helping behavior (across eight service sector organizations) at the individual and team level with job satisfaction and organizational commitment, Kidwell, Mossholder, and Bennett (1997) found that cohesive groups are more apt to express increased courtesy, helping behaviors, and job satisfaction compared to non-cohesive groups; they communicate better and pay more attention to team inputs, resulting in more effective performance. Furthermore, at the individual level, employees reported increased job satisfaction, organizational commitment, and individual satisfaction after having worked with a cohesive team (Kidwell et al., 1997). One could argue that the sample's job type (e.g., bank tellers, loan officers, customer service personnel and sales specialists) poses a limitation to these findings. For example, it may be that cohesive groups are courteous and help more because they are employed in occupations that tend to promote and depend on these types of behaviors. In turn, such behaviors result in job satisfaction and organizational commitment. However, the researchers attempted to minimize such confounding effect by measuring group cohesiveness with coworker identification (i.e.,

commitment of employees to one another) versus job identification (i.e., commitment of employees to their organization).

Also within the teams literature, positive outcomes such as job satisfaction and commitment have been shown as a result of helping behaviors (Deckop et al., 2003; Liden, Wayne, & Sparrowe, 2000). Liden and colleagues (2000) have found that cooperation and prosocial behaviors between team members had a positive relationship with coworker satisfaction, job satisfaction, group cohesiveness, and interpersonal motivation. That is, the more employees engaged in helping behaviors that benefited their group, the more satisfied they felt from their working relationships and their work. Additionally, Deckop et al. (2003) have shown that when employees received help from team members, they become more inclined to offer help as well.

More recently, research on helping and well-being has shown that helping others positively influences the well-being of the helper in addition to the recipient of the help (Weinstein & Ryan, 2010). In both field and lab studies, Weinstein and Ryan (2010) examined the outcomes of helping behavior for both the giver and recipient of the help. The researchers examined outcomes representing subjective well-being, vitality, and self-esteem. Results, across four studies, suggest that the more helpers gave, the higher their reports of subjective well-being. Additionally, when individuals are autonomous in their help (i.e., they are volitionally helping versus being told to help) individuals helped more, and felt closer to the recipient of the help. Similarly, recipients of the help experienced higher levels of vitality, self-esteem, and positive affect compared to groups who did not receive help, and groups who perceived the help was mandated. It seems then that helping others, apart from possible egoistic motives related to future exchange, also

fulfills basic psychological needs (e.g., competence and belongingness) that consequently enhance the wellness of the helper.

As noted above, helping behavior has been shown to provide an array of benefits to both the receiver and the giver of the help. Although the benefits of the recipient may be more transparent to consider than it is for the giver of the help, other benefits for the giver of the help include higher performance appraisal, networking opportunities, and future helping exchanges. As an example, a benefit for employees who offer help is the opportunity to develop networking relationships with leader members that consequently can lead to higher performance appraisals. This example is best explained by Leader Member Exchange (LMX) theory. LMX theory is based on the assumption that employees and leaders develop a social exchange relationship. Higher quality exchange relationships involve higher levels of interpersonal attraction, trust, and loyalty compared to lower quality exchange relationships (Wayne, Shore, Bommer, & Tetrick, 2002). Therefore, employees who are involved in high-quality exchange relationships are motivated to exhibit higher levels of helping and conscientiousness. These behavioral exchanges build on social capital, and in return leaders provide more favorable performance ratings, promotions and rewards.

Yet another benefit for the giver of the help is that employees who offer help to other colleagues do so as an investment to future help/benefits they may want to receive. These benefits can be interpersonally related or they can be task related. Employees who help others on task relevant activities enhance cognitive capital by presenting ideas and sharing opinions that facilitate a shared language within an organization (Nahapiet & Ghosal, 1998). In turn these forms of communication increase and strengthen the social

capital and networking relationships for the giver of the help. Additionally, employees who help colleagues at the interpersonal level may benefit as they increase relational social capital by building trust with other employees (Nahapiet & Ghosal, 1998). Relational social capital may be important for the giver of the help if it is perceived that building such relationships affects their own job satisfaction and commitment to their organization.

Even if most helping behaviors between employees are informal and unrewarded, it is evident that helpful behavioral exchanges commonly occur between employees. It is also reasonable to believe that employees generally understand the need to express helpful behaviors at work that are appropriate and timely. Because helping has important and fundamental implications to an organization and an employee, two fundamental questions should be considered: Should different types of helping behavior be considered and treated equally by an organization? Do different forms of help lead to distinct individual and organizational outcomes? Although these questions are very broad, I do consider them briefly as justification for researching helping behavior, developing helping measures, and understanding how helping leads to beneficial outcomes to an organization and an employee.

Should types of helping behavior be treated equally by an organization?

Researchers in the helping and OCB literature have drawn attention to the ways in which helping behavior is manifested in various forms, whereby employees are more inclined to perform one type of help over another (Anderson & Williams, 1996; Podsakoff et al., 1997; Podsakoff, et al., 2000; Settoon & Mossholder, 2002). Helping is not just one general activity; in fact helping can be manifested differently as a function of its

appropriateness to a particular situation. Finer distinctions between helping behaviors should be made, as forms of helping (e.g., emotional helping and instrumental helping) may carry different implications for workers and organizations. Organizations may value, recognize, and reward some forms of employee help more than another. In addition, employees may benefit from some forms of employee help more than another, as types of helping behavior can differentially affect job satisfaction, commitment and job performance for both the receiver and giver of the help.

Do different forms of help lead to distinct outcomes? Helping can offer substantial and important benefits to the recipient of the help and to the giver of the help as well. For example, helping coworkers with emotional support will tend to result in the recipients' increased job satisfaction and their decreased intentions to leave the job. Helpers may also feel satisfied with their job if they perceive emotional helping as a valuable asset they bring to their organization and they are rewarded for it. Alternatively, helping coworkers with task-based help may lead to the improved performance and organizational productivity of the recipient of the help –hopefully not at the expense of the help-giver's own performance.

Examining interpersonal relationships in organizations, McAllister (1995) found that affiliative (emotional helping) citizenship behavior differed from assistance-oriented (task-based/instrumental) citizenship behavior. The former behavior relates closer to the psychological maintenance in an organization for both the giver and the recipient of the help. Conversely, the latter behavior aids job performance for the recipient of the help. Settoon and Mossholder (2002) also support the view that emotional helping has greater implications on the psychological and social core of an organization to both the giver and

the recipient of the help, and task-focused helping behavior carries greater task performance implications.

Motivation Orientation and Helping Behaviors

Knowing how motivation orientation regulates helping behaviors can provide a platform for future research efforts to determine *why* people choose and offer help to employees. As Flynn (2005) states:

> Members of organizations often request and provide help, but the process by which help is given may vary…in which the specific motives and behavior of the actors involved follow a unique and clearly identifiable pattern (p. 737).

It would appear that motivation orientations affect the type of helpful behaviors employees exhibit at work. Barrick, Stewart, and Piotrowski (2002) classified motivation as three types of orientations: status striving, achievement striving, and communion striving. Status striving represents behaviors geared towards obtaining power and dominance within a status hierarchy. Achievement striving represents behaviors directed toward accomplishing tasks to reach task-related goals. Communion striving represents behaviors directed toward obtaining acceptance in personal relationships and getting along with others.

Although these three forms of motivation orientations have yet to be related to helping behaviors, people with high status and achievement orientations, compared with people having high communal orientations, may exhibit two distinct types of helping. Communion striving individuals for example will most likely prefer to engage in emotional based helping. Status striving individuals may engage in both types, so long as it is perceived to contribute to an increase in formal or informal status. Achievement

striving individuals will most likely prefer to engage in instrumental helping.

Until recently, however, Weinstein and Ryan (2010) examined motivation orientations derived from Self-Determination Theory (SDT) with helping behavior outcomes. Unlike the three motivation orientations previously mentioned, SDT theorizes that motivation orientations fall along two ends of a continuum: autonomous motivation and controlled motivation. Autonomous motivation refers to behaviors experienced from one's personal interests and values. Controlled motivation refers to behaviors experienced from external and self-regulatory pressures. In their study, Weinstein and Ryan (2010) found that both types of motivation orientation differentially predicted how much help an individual offers to another, but more importantly individuals with autonomous motivations compared to those with controlled motivations experienced increased levels of well-being, provided better quality help, and experienced enhanced feelings of connectedness with the recipient of the help.

The intent of this thesis is not to argue that orientations will always dictate one type of helping behavior (e.g., altruistically versus egoistically based) over another but rather to emphasize that helping behavior can be partially explained by motivation and can yield different outcomes for employees (e.g., giver and receiver of the help) and organizations alike. Based on this previous research, however, it seems that treating helping behavior at the general level overlooks the different relationships that instrumental and emotional helping can have on outcomes of interest (e.g., job satisfaction and organizational commitment). Note that different relationships can lead to two types of helping behavior, and even these two dimensions can be usefully subdivided. Additionally, task-based (instrumental helping) and interpersonally based

behaviors (emotional helping), however, can be outcomes themselves or contribute to other organizational outcomes as well.

Emotional Help and Instrumental Helping

There has been limited research examining specific dimensions of helping. However, two notable studies have done so. In one study, refined structures of citizenship performance were developed and analyzed (Coleman & Borman, 2000). In another study, an interpersonal citizenship measure containing person-focused and task-focused behaviors was developed (Settoon & Mossholder, 2002). In an effort to clarify conceptual issues of citizenship performance, Coleman and Borman (2000) proposed an integrated hierarchical model representing three types of behaviors. Their empirical results found support for three clusters: (1) interpersonal citizenship performance, (2) organizational citizenship performance, and (3) job/task conscientiousness. These three clusters are forms of citizenship performance targeted to different recipients. It should be noted that at first glance the job/task performance cluster may be considered outside of the OCB domain; however, this cluster is proposed as a citizenship dimension targeted to the self and is defined as "Extra efforts that go beyond role requirements; demonstrating dedication to the job, persistence, and the desire to maximize one's own job performance" (p. 36).

To arrive at these three OCB clusters, Coleman and Borman (2000) identified citizenship behaviors found in the prosocial, OCB, and contextual performance domains. They obtained 27 items describing citizenship behaviors and had them sorted by I/O psychologists. Once the items were appropriately sorted, an exploratory factor analysis, multidimensional scaling analysis, and cluster analysis were performed on the data. The

exploratory factor analysis was used to identify the total number of factors to retain. This analysis revealed a four-factor solution labeled as (1) Helping and cooperating with others, (2) Endorsing, supporting and defending organizational objectives, (3) Following organizational rules and procedures, and (4) Persisting with enthusiasm and extra effort to complete own task activities successfully. The multidimensional scaling analysis (MDS) was another approach used to distinguish an underlying structure of the items in order to determine the dimensionality and grouping of citizenship behaviors. The cluster analysis was applied to the (MDS) solution, revealing three cluster groupings of interpersonal, organizational, and job/task citizenship performance.

Although their factor analysis suggested four factors, the cluster analysis with three clusters is most closely associated with the proposed model of helping behavior. The authors further split interpersonal performance as interpersonal altruism and interpersonal conscientiousness. Interpersonal altruism relates to behaviors involving helping an individual in personal matters, and being altruistic. Interpersonal conscientiousness is defined as behaviors that provide assistance and support, and develop employees (Coleman & Borman, 2000). Interpersonal conscientiousness relates to helping behaviors that are task-based in nature. Overall, their model contributes to this thesis because it shows evidence that more specific dimensions might be necessary when examining employee behavior in organizations.

In contrast with Coleman and Borman (2000), who examined OCB outcomes, Settoon and Mossholder (2002) developed an interpersonal citizenship behavior (ICB) scale to measure relationship quality and relationship context variables as antecedents to person and task focused helping outcomes. Their results found support for this two-

dimensional view of interpersonal citizenship behavior. Furthermore, a relationship quality variable, empathic concern, mediated the relationship of trust and perspective taking to ICB and was also found to be a direct antecedent of person focused ICB. Partial support was found for network centrality, a relationship context variable, to be associated with task focused ICB. As their results suggest, different antecedents lead to different forms of helping; however, one could also examine how helping behavior contributes to distinct organizational outcomes such as commitment and satisfaction.

Although Settoon and Mossholder's (2002) efforts led to useful results, there are some methodological and theoretical limitations that the thesis attempted to address. Specifically, Settoon and Mossholder (2002) measure attitudes within their antecedent measures of helping, yet those measures are also contaminated with measures of helping behaviors. Behaviors would be better modeled as an outcome in their ICB scale or as a mediator of an outcome (e.g., job performance). For example, coworker support, an antecedent to person-focused helping, contains an item in its scale that states: "My coworkers are willing to extend themselves in order to help me perform my job." In that example, the item is defining coworker support as a helping behavior. As an antecedent, coworker support should be a psychological characteristic that leads to person-focused helping behavior and not be a helping behavior itself. Similarly, perspective taking, another antecedent variable, is also assessed in terms of helping behaviors that makes hypothesized associations between perspective taking and helping behavior unclear (e.g., "I sometimes try to understand my coworkers better by imagining how things look from their perspective"). Although not all of the items in their antecedent measures are defined in terms of helping behaviors some items are, and this confuses antecedent psychological

characteristics with behavioral outcomes. A clearer distinction between psychological characteristics (antecedents of helping) and employee behavior (helping and outcomes of helping) is needed.

Settoon and Mossholder (2002) examined literature and theory to support a two-dimension view of helping behavior in their measure, and were concerned in examining the antecedents of task and interpersonal helping dimensions. However, theory suggests further refinement of those dimensions. This thesis rather than focusing on antecedents of helping is interested in the helping behaviors themselves.

The task-based helping dimension contains employee behaviors aimed at helping fellow employees with an organizationally relevant problem. Task-based helping behaviors involve helping others who have heavy workloads, lending a helping hand on a task relevant problem or filling in for employees who are absent (Podsakoff, MacKenzie, Moorman, & Fetter, 1990). Task-based helping is different from task performance because they are behaviors directed to another employee that is not mandated by the helper's job and can go unrewarded.

The interpersonal helping dimension is defined as helping behaviors on the part of the employee aimed at emotionally supporting other coworkers, demonstrating positive regard, and preventing work-related problems from occurring. Examples include encouraging employees to overcome differences and get along, and helping to increase communication between employees and colleagues (Farh, Earley, & Lin, 1997; Organ, 1990).

Developing a New Measure of Helping

Many measures of helping behavior are available throughout the prosocial, organizational citizenship and helping literature; however most measures stop at interpersonal and task help scales when finer distinctions are warranted. Given the assortment of helping items available, a new measure can group existing items according to narrower dimensions. For example, if the help was emotional support, was the help related to praising an employee about their success at work? or was the help related to offering positive feedback to an employee about their persistence at performing a task well?, or was the help related to mediating an argument between two employees?

Similarly, helping a coworker accomplish a task may not provide specific information on how that behavior affects an employee's task performance that in turn boosts organizational productivity. For example, was the behavior related to helping someone accomplish a task? or was the behavior related to mentoring an employee about career decisions? Thus, it is important to distinguish narrower dimensions that underlie a two-dimensional view of interpersonal and task-based helping. The thesis does this by examining common dimensions across the items adapted from the helping, OCB, and prosocial literature. These dimensions are subsumed by interpersonal and task- based helping, labeled in this thesis as emotional and instrumental helping respectively, and may carry different consequences to organizational and employee effectiveness. The measure that I developed was modeled and validated with a college-based sample.

Emotional and Instrumental Helping Categories

Upon reviewing several measures of helping behavior and their items, six categories were found to represent both emotional help and instrumental helping

dimensions. Based on empirical support in the prosocial, organizational, and helping literature, three categories – emotional support, empathy, and negotiation – are more related to emotional help. The three remaining categories - mentoring, proactive helping, and shared workload - are more in line with instrumental helping. These six categories are described below (see Figure 1).

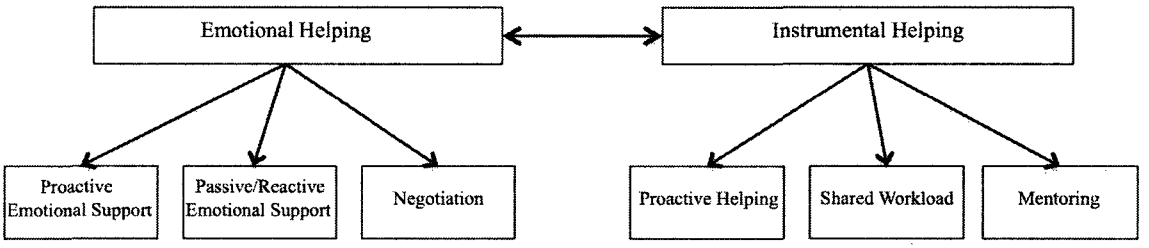

Figure 1. Factor Structure of Helping Behavior

Emotional support. In this thesis, emotional support refers to employees engaging in helping behaviors by demonstrating praise and positive regard to a coworker. Emotionally supportive behaviors include praising the work of a colleague; making coworkers feel valuable to the organization and making coworkers feel good about themselves. To convey a conceptually clearer distinction from empathic behaviors, emotional support is relabeled, in this thesis, as *proactive emotional support* and is considered an aspect of social support extensively examined in its relation to occupational stress (Bowling et al., 2005; Park, Wilson, & Lee, 2004).

More specifically, research examining occupational stress has found that emotional strain negatively affects employee commitment, job satisfaction, and well being (Bowling, et al., 2005; Park et al., 2004). Furthermore, exhibiting higher levels of emotional support is negatively correlated with depression and positively correlated with higher levels of job performance (Park et al., 2004). Exchanges of emotional support

within an organization also develop a group's norm to endorse helping behavior, which in turn improves the effectiveness of the group and positively influences job satisfaction and commitment (George & Bettenhausen, 1990).

Empathy. Empathic behavior is considered as helping behavior that is driven by genuine concern for an individual (Kao & Sek-Hong, 1993). Conceptually, empathy can be best thought of as *passive/reactive emotional support*, whereby these behaviors involve listening to what others have to say, showing genuine concern for the well being of a fellow coworker, and taking the time to listen to a coworker's concerns. Increased cooperative behaviors between employees increase cohesion, and in turn it leads to greater emotional well being, job satisfaction, and commitment in the workplace (Kao & Sek-Hong, 1993). Research in the social support literature has shown that employees displaying concern to other fellow employees buffer their feelings of hopelessness, loss and job dissatisfaction (Sy, Tram, & O'Hara, 2006). It seems then that recipients of compassion and comfort by fellow employees develop stronger relational ties to their fellow colleagues and organization, and therefore they may be less apt to leave their jobs.

Negotiation. Most organizations are not immune to conflict, especially when interdependence between employees exists. In the face of conflict between coworkers, better interpersonal communication is developed when opportunities and forms of interpersonal harmony are presented (Ladd & Henry, 2000). The process through which employees negotiate with fellow employees facilitate communication and set differences aside (Van Scotter & Motowidlo, 1996) suggests that negotiation contributes to the workflow in an organization, ensures fair treatment between coworkers, and prevents

work-related problems from occurring (Organ et al., 2006; Podsakoff & MacKenzie, 1994).

Proactive helping. Proactive helping is a subset of helping behaviors requiring individual initiative. Examples of such behaviors involve volunteering to improve another employee's assignment, offering help without having been asked, and volunteering to take on extra job responsibilities both at the individual and group level (Organ et al., 2006). Many studies have examined proactive behavior as a form of conscientiousness (Organ, 1988), personal industry (Moorman & Blakely 1995), and constructive suggestion (Borman & Motowidlo, 1993, 1997).

Given that proactive helping involves general volunteering efforts, it is not solely task-based or interpersonally based. Just as individual initiative behaviors have been empirically difficult to distinguish from task performance (Van Scotter & Motowidlo, 1996), proactive helping involves behaviors that are considered to be most closely related to instrumental helping compared with emotional helping (Frese, Teng, & Wijnen, 1999). In past research, the content in helping items from previous measures treat proactive helping (e.g., individual initiative) as task-based helping behaviors (Anderson & Williams, 1996; Podsakoff et al., 1990; McNeely & Meglino, 1994; Van Dyne & LePine, 1998). Proactive helping in this study is thus expected to be a dimension of task-based behaviors directed to a coworker's performance.

Mentoring. Oftentimes, when employees begin to work in an organization, they may undergo through some formal type of training during their initial work period. After formal mentoring employees might still need help with their job or a particular work assignment. The relational networks employees develop make them more available to

help others and be helped as well. Mentoring is when an employee can extend a helping hand to another colleague through behaviors that involve training and tutoring (Settoon & Mossholder, 2002). Mentoring requires an employee's knowledge and the awareness to offer that knowledge to coworkers in need in a timely and appropriate manner.

In recent studies, researchers have found that in an organization, knowledge sharing, mentoring and training both within and outside departmental groups all play a pivotal role in organizational workflow and effectiveness (Lapierre, Bonaccio, & Allen, 2009; McManus & Russell, 1997). Mentoring is a dimension of instrumental helping. Furthermore, employees who receive mentoring in the workplace experience decreased intentions to leave the job. Hall and Smith (2008) tested the different functions that mentoring contributes to employees in industry. Their results indicate that the psychosocial support in mentoring reduced accountant's intentions to leave their jobs.

Shared workload. There are situations when employees offer help or share in their colleagues work to enhance task assignments and accelerate their completion. Shared workload is defined here as behaviors where employees help coworkers by sharing job responsibilities. This definition is similar to task interdependence. Smith et al. (1983) have argued that task interdependence "fosters social norms of cooperation, helping, and sensitivity to other's needs and makes salient a collective sense of social responsibility" (pp. 655- 656). On the other hand, researchers have found that exhibiting instrumental helping behaviors can sometimes hinder cooperative behavior, as recipients may feel a loss of control or individual empowerment (Bachrach et al., 2006). Although there have been mixed results in the task interdependence literature, these behaviors affect the

technical core of an organization, and as such, shared workload should be more strongly associated with instrumental helping compared with emotional based helping.

Based on the literature I reviewed that supports six dimensions of emotional and task- based helping behaviors, I hypothesized the following:

H1: Proactive Emotional Support, Passive/Reactive Emotional Support, and Negotiation dimensions all have positive and statistically significant factor loadings on a higher-order Emotional Helping factor.

H2: Proactive Helping, Mentoring, and Shared Workload dimensions all have positive and statistically significant factor loadings on a higher-order Instrumental Helping factor.

H3: Emotional helping and Instrumental helping are empirically distinct, meaning there will be a statistically significant difference between the estimated correlation between the factors, versus when they are constrained to equal 1.0.

This refined model of helping behaviors complements the efforts and contributions of previous research, namely, comparisons between the Coleman and Borman (2000) and the Settoon and Mossholder (2002) models (Appendix *A1* and *A2*). The dimensions in the proposed emotional helping factor are similar to Coleman and Borman's interpersonal altruism dimension, and Settoon and Mossholder's (2002) coworker support, empathic concern, and perspective taking dimensions. There were only two items from Coleman and Borman's 27-item scale that shared elements of the proposed shared workload dimension and possibly the mentoring dimension (e.g., "Cooperating with other organization members" and "Synergizing others through participations in the organization"). Additionally, all of the task-focused items reflected

in Settoon and Mossholder's (2002) measure are similar to the proposed shared workload dimensions.

A dimension not covered in my proposed model is the trust dimension, found in the Settoon and Mossholder (2002) article. The trust dimension is excluded in the proposed model because the construct relates more to the level of affect shared between two employees versus actual behaviors that one employee provides to another. Trust may certainly be both an antecedent and a result of those behaviors, but trust itself is a more affect-laden construct than an actual behavior, and it is therefore not included in my model of helping behaviors.

The interpersonal conscientiousness dimension in the Coleman and Borman (2000) article was also not included in the proposed model. This dimension refers to behaviors that are related to helpful task behaviors. Their items for this dimension (e.g., "Engaging in behavior that benefits individuals in the organization" and "Cooperating with other organization members") are already contained in my proposed model under the mentoring, proactive helping and shared workload dimensions, all of which fall under the instrumental helping factor.

As shown in Figure 2, I cover dimensions for mentoring, proactive helping, and negotiation, ones that have not been identified in previous theoretical models of helping. These dimensions are important to consider, as they cover patterns of behaviors exhibited by employees that to date have been obscured in more general models and measures of instrumental and emotional helping. The proposed model is consistent with a two-factor structure in previous research but extends it by organizing the two forms of helping across six dimensions. Furthermore, the model requires a more rigorous procedure to

confirm the two-level model, as hypotheses and analyses are within and between the higher-level factors.

The importance of this process of theoretical refinement is that it can be a first step to improving criterion-related validity and organizational practice. For example, based on validities for organizational outcomes of interest, should organizations place greater emphasis on one form of help over another? Are supervisory evaluations influenced by the value that supervisors place on types of helping behaviors? Are some dimensions of help more predictive of job performance while others dimensions are more predictive of job satisfaction (the answer is not as clear as instrumental versus emotional helping respectively)?

	Coleman & Borman, 2000	Settoon & Mossholder, 2002	Ramos Proposed Model
Overall Category	Interpersonal Citizenship Performance	Interpersonal Citizenship Behavior	Helping Behavior
Category	Interpersonal Altruism (IA)	Person-Focused (PF)	Emotional Helping (EH)
	Interpersonal Conscientiousness (IC)	Task-Focused (TF)	Instrumental Helping (IH)
Correspondence between dimensions		Coworker Support-(PF)* Trust-(PF)*	Proactive Emotional Support-(EH)
		Empathic Concern-(PF)* Perspective Taking-(PF)*	Passive/Reactive Emotional Support-(EH)
		Initiated Task Interdependence-(TF)*	Proactive Helping-(IH) Shared Workload-(IH)
		Network Centrality-(TF)*	Mentoring-(IH)
			Negotiation-(EH)
Ramos dimensions not fully covered in previous models			Negotiation
			Mentoring
			Proactive Helping
Correspndence between previous items and Ramos dimensions	Item #: 1, 2, 3, 4; (IA)		Passive/Reactive E.S. and Proactive Emotional Support
	Item #: 6, 8; (IC)		Shared Workload
		Item #: 1, 2, 3, 4, 5, 6, 7, 8; (PF)	Passive/Reactive E.S. and Proactive Emotional Support
		Item #: 8,10, 11, 12, 13, 14, 15, 16; (TF)	Shared Workload
		Item #: 9; (TF)	Proactive Helping

Figure 2. Comparison of content similarity and differences between previous models (Appendix A1 and A2) and the proposed model.
*The authors considered these variables as antecedent variables that lead to task or person focused helping.

Method

Scale Development

Generating the item pool. In developing the new helping measure, 218 items were first obtained from existing measures in the OCB, prosocial, and helping literature (Appendix B). These items were selected if they included content reflecting the referent as the giver of the help, behaviors that specified a particular type of helping behavior, and helping behaviors found in the work context.

Initial item pool reviewed by experts. Upon completion of compiling the 218 items that met the criteria for selecting existing items, four researchers in the helping literature were then contacted to review the items and make suggestions, reducing the original pool of 218 items to 127 (59.3%) items.

Sorting procedures. My advisor and myself then categorized items independently. Results were then shared and merged. Items that went uncategorized were removed; this led to a total of 118 items (92.9%) and six categories that covered those items. From that process, items were then reworded for clarity, conciseness, and reading difficulty. Redundant items were deleted; new items were also generated across the six categories so that the numbers of items were more balanced across categories. A total of 62 items (52.5%) remained from this process. In line with my refined model of helping behavior already discussed, the helping measure is organized as a multidimensional scale where the six categories fall under the two general types of helping behaviors initially introduced as interpersonal (i.e., emotional) and task (i.e., instrumental) helping.

To determine whether interpersonal and emotional items can be reliably subdivided into the chosen six categories, five Industrial Organizational graduate students from Rice University performed a web-based card sort. They were given definitions of

the six categories and were prompted to categorize the items however they saw fit. Graduate sorters were also instructed that if an item did not seem to belong in any category that item should be categorized as 'other'. An item from the web based card sort was kept if four of the five raters placed the item into its intended category. This process led to deleting 20 items (33.3%) altogether, with 42 items (66.7%) that were appropriately sorted across six categories (Appendix C). The items were organized as follows: Eight items were kept in the emotional support category (re-labeled as proactive emotional support), six items in the empathy category (re-labeled as passive/reactive emotional support), seven items in the negotiation category, six items in the proactive helping category, ten items in the mentoring category, and five items in the shared workload category (see Appendix D).

Measurement format. From a measurement perspective, the inclusion of scales representing helping behaviors of various types were used to increase variability in responses amongst participants and to therefore discriminate differences in helping behaviors. Respondents were asked to select their level of agreement of helping behaviors they have provided to other coworkers as described by the scale. Response options ranged from (1) strongly disagree to (6) strongly agree.

Although empirical support suggests that a refined measure can be useful to examine outcomes of helping it was important to first consider using the measure with a student sample. Doing so provided the benefit in knowing whether a refined measure of helping can in fact be predictive of specific outcomes of interest. This decision is based on three important points. First, to date there has yet been a study that has attempted to examine specific helping dimensions with organizationally relevant outcomes. Second, it

is necessary to first obtain results that suggest the possible usefulness of the measure in an effort to assure organizations of the importance in utilizing a refined measure of helping. Last, although the items in the helping scale reflect behaviors in an organization, the measure is relevant to a student sample as it shares phenomena similarly related to helping behavioral outcomes that would come from a work sample. For instance, helping behaviors are not solely limited to any one type of organization or institution. Criteria such as satisfaction, commitment, and performance are analogous in a University setting and in an organization. Relating helping behaviors as predictive of the above-mentioned criteria are similar enough in content to support using a student sample.

Additionally, for both types of samples, the reasons of leaving or being terminated from an institution/organization (e.g., being dissatisfied, uncommitted, or showing poor performance) are relatively similar. Other organizational outcomes related to college outcomes include cohort cohesion, stress and social support. Thus, these overlapping characteristics between both samples ensure that a student sample would best be initially tested prior to engaging the time and resources of an organization.

Participants and Procedure

A total of 227 undergraduate students from Rice University participated in this study. Of the 227 students, 149 were females and 78 were males. The average age of participants was 19.3 with a standard deviation of 1.6. The 42 items obtained in the web-based card sort were administered to the undergraduate sample. In order to have the measure reflect helping behaviors given in a University, the 42 items were reworded accordingly. In the event that rewording the items would alter the initial card sort those effects would be reflected in the analysis. Means, standard deviations, scale

intercorrelations and alpha reliabilities were examined within each of the six scales. Items that did not have high item-remainder correlations were eliminated as described below. This process allowed me to examine correlations of items within each respective scale. This procedure was then followed up by an exploratory factor analysis to detect any high item cross-loadings that recommended deleting the item from the pool.

Initial Inspection of Items

Item variances. Low item variances suggested that participants were providing ratings within a narrow range of options. Such items are less able to detect any differences across respondents. Low item-remainder correlations were likely to result, and were deleted when detected.

Item means. Items with means that were near to the extreme of the response option range in each scale would tend to have low variances, and as mentioned, items that vary over a narrow range would correlate poorly with the other items in their respective scales.

Item-remainder correlations. Both item variances and item means would affect the correlation between items and therefore the item-remainder correlation, which is the correlation between a given item and total score to which the item belongs. The total, however, is a "remainder" which subtracts out the influence of the item itself, which would otherwise inflate the correlation artificially. I computed item-remainder correlations for all items in each of the six scales; then, I made my final decision to retain or remove items based on large or small item- remainder correlations, respectively. The convention for whether to include an item in the scale is if the item-remainder correlation criterion is greater than .3 (Nunnally & Bernstein, 1994).

Inter-item correlations. I also examined the inter-item correlations as another way to examine the internal consistency of the six scales. Recommended average inter-item correlations fall in the range of .15-.50 (Briggs & Cheek, 1986). Note that inter-item correlations may be an informative supplement to alpha reliability, because the latter can be high when the former is low, so long as there are a large number of items.

Factor Analysis

An exploratory factor analysis was performed on the data obtained from the sample of students previously mentioned. Based on the theoretical model I have developed, six factors are presumed to underlie the set of helping items. A principal axis factor analysis (PFA) will be performed, as principal axis estimates and models the unreliability of items, unlike principal components analysis.

For the factor analysis, six separate EFAs were conducted, one for each set of items for each scale. The expectation was that items would be highly correlated with one another and would therefore load highly on a single general factor. However, items that did not correlate with the other items on the scale (because the item is unique and/or has an extreme mean which causes range restriction) would tend to show low loadings on the intended factor and were deleted based on the criterion of the loading being less than .30 (Fabrigar, Wegener, MacCallum, & Strathan, 1999).

A scree plot in a factor analysis graphically represents the relationship between how much variation in the items is explained by each unrotated factor along the *y*-axis (i.e., eigenvalues) with each unrotated factor ordered along the *x*-axis. The eigenvalues are plotted in descending order and connected with line segments. The point where the line breaks off in the graph distinguishes the number of factors that are important to

retain (before the break) from the factors that account for small to insignificant variance (at and after the break). I also decided that although I expected evidence of one factor for each of the six sets of items, if the scree plot in the factor analysis suggested retaining a larger number of factors (i.e., two – probably not three given a small number of items in each scale), I would conduct an additional EFA based on the full set of the items from the scale. Again, I would delete any items with low factor loadings (< .3) and then consider the items as reflecting 2 sub-factors within the particular helping dimension. The reason I made these a priori decisions is that to keep true with creating a multi-dimensional measure, discovering sub-factors would provide further evidence that further refinement to my multidimensional model is needed. Of course, although factor solutions indicated reliable and interpretable scales, all empirical results deserve future replication in independent samples.

CFA Analysis

After investigating the unidimensionality of each of the helping measure scales, a confirmatory factor analysis was performed on all the scales combined. Specifically, in the (CFA) model, the six scales served as indicators that load on two factors: instrumental and emotional helping, with 3 scales loading on each of the two factors (see Figure 3). Loadings on the specific items within each of the six dimensions were not be modeled, because the measurement model was already specified in the EFAs, where high factor loadings were a criterion for retaining items. Emotional helping and instrumental helping were left to correlate with each other, so that a general factor of helping (and/or method variance) was estimated. Given six indicators ($v = 6$), the total available degrees of freedom in my model is $df = ([v\ (v + 1)] / 2)$, or $(6*7)/2 = 21$. In my model, I estimated

six factor loadings and six error variances, meaning there were 12 parameter estimates, leaving 9 (i.e., 21-12) degrees of freedom in the analysis. Factor variances were constrained to equal 1.0, and the solution was standardized, so that the covariance between emotional and instrumental helping could be interpreted as a correlation.

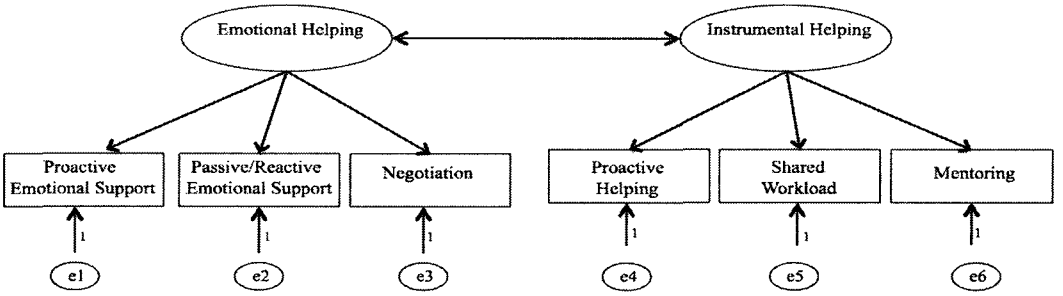

Figure 3. Two-Factor CFA Model

Consistent with recommended practice for model fitting in CFA, the adequacy of my two-factor model was determined by the convergence of several model fit indices (1) Achieving a non-significant chi-square statistic. A non-significant chi-square statistic indicates the model fits the data well, given that the hypothesized model estimates reproduces the sample covariance. Another criterion for model fit involving chi-square is the chi-square-to-degrees-of-freedom ratio, where as a rule of thumb, a value of 3.0 or less indicates good fit (Bollen, 1989). (2) Achieving a comparative fit index (CFI) greater than .9; CFI assesses model fit compared to the baseline null model. The baseline null model would be that the covariances of all indicators are fixed to zero, whereby there is no relationship between the hypothesized variables of interest. This is usually a weak baseline model, meaning that CFI is generally high in most analyses. (3) An informative estimate of model fit comes in estimating how well the parameters set in my model tend to reproduce covariances in the population, this estimation is denoted by the root-mean-

square error of approximation (RMSEA) typically found in the CFA output, where RMSEA values less than .06 indicate good fit (Nunnally & Bernstein, 1994).

Validating the Helping Measure

The next step after modeling my conceptual interpretation of a multidimensional measure of helping behavior, I assessed the criterion-related validity of the six developed scales with the academic sample. Of interest in the validation portion of this study was to assess how predictive SAT scores, and personality are of helping behaviors, and in turn how predictive helping behaviors are of college satisfaction, student identification, college stress, college performance and college commitment, above and beyond the prediction afforded by SAT and personality.

Students were given a web-based survey via Survey Monkey (www.surveymonkey.com). The online survey contains a set of instructions explaining the purpose of the study. In addition, a consent form was provided to ensure students are participating voluntarily, and knowing that all information they provide would be kept confidential. Student demographics such as gender, age, and year in college were also obtained. Next, the survey includes measures that cover dimensions of cognitive ability, personality, helping behavior, commitment, performance, stress, support and cohesion. Ability is assessed by student report of their SAT scores. The measures covering personality come from the IPIP (Goldberg, 1999). For the helping scale, participants were instructed to think about behaviors (as reflected in the scale) they have given to other students in their University. Based on their previous helping behaviors, participants then rated their level of agreement of the helping items on a 1-6 scale, ranging from strongly disagree to strongly agree.

In the helping literature, common outcomes of helping are employee job satisfaction, turnover intentions and job performance. In the present college student sample, the outcomes that parallel organizational outcomes are school satisfaction, school involvement, intentions to withdraw, academic performance, cohort cohesion, college stress, and social support. Note that the shared workload dimension in the measure could be problematic to use, as sharing some work assignments would be considered cheating. However, for exploratory purposes, I instead asked students to consider filling in that particular portion of the scale only if they had worked in groups for a group assignment/project.

Finally, outcomes of interest were assessed by asking students how satisfied they felt being a student at Rice University, their level of school involvement (e.g., providing a list of extracurricular activities involved in at Rice), reports of their GPA, cohesion with other college students, stress, and social support. As suggested in this thesis, it was expected that types of helping behaviors versus helping behaviors at the general level are more indicative of certain organizational outcomes. An extension of this thesis was examining the criterion related validity of the helping measure, and the ways in which the scales differentially predict specific outcomes. In addition, for this study, hypotheses regarding the incremental validity of specific helping dimensions being higher than the incremental validity for other dimensions were not tested. This decision stemmed from my primary focus of including important criteria believed to specifically relate to helping. Hopefully this would improve the chances of obtaining incremental validity of the helping dimensions. Note that differential prediction for the scales can exist, regardless of the factor structure of the scales.

In this validity section of my study, I hypothesized the following:

H4: The six helping scales will individually show significant incremental validity in predicting the seven criterion variables above and beyond the Big Five and SAT scores.

Predictors

Cognitive ability. Rice University students were asked to report their SAT scores.

Personality. Participants were also be given a 50-item personality inventory. The items used will be adapted from Goldberg's (1999) development of Five-Factor Domain scales from the IPIP Item Pool which is available online (α = .81) (Appendix E) (http://ipip.ori.org/ipip/). Participants were instructed to read and rate the accuracy of each statement as it pertains to their own behavior. The item responses range from (1) very inaccurate to (5) very accurate.

Helping. Participants rated their level of agreement of the helping items on a 1-6 scale ranging from strongly disagree to strongly agree.

Criteria

University satisfaction. Participants were given a set of seven items assessing their level of college satisfaction at Rice University. The measure is a set of 22- items (however, only the seven items that ask about college satisfaction were used): 15 items measure general life satisfaction, 7 items measure college satisfaction (α = .86; Appendix E; Lounsbury, Saudargas, Gibson, & Leong, 2005). Students were asked on a Likert scale of 1 (very dissatisfied) to 7 (very satisfied) how satisfied they feel as a student at Rice University. Example items include: "Your rate of progress toward a college degree;" "The availability and quality of academic advisors," and "Your

academic major."

University commitment. Students were asked to list the extracurricular activities they are involved in at Rice University. The extracurricular activities included playing in a team at Rice University, student government, student clubs, and intramural sports activities. Extracurricular activities were scored as the number of activities involved in at Rice University.

Intent to withdraw from college. Students were also asked to report their intentions to remain a student at Rice University. Students were asked on a Likert scale of 1 (strongly disagree) to 5 (strongly agree) three questions regarding their intention to withdraw from Rice University. Students reported whether they intended to be enrolled at Rice 6 months from now, whether they intended to transfer to another university or get a job before or at the end of the academic year (Pleskac, Keeney, Merrit, Schmitt, & Oswald, 2009).

Academic performance. Participants were asked to report their college GPA.

Cohort cohesiveness. Students reported their perception of cohesion within their college cohort. Rice University consists of eleven residential colleges. Each student at Rice University is randomly assigned to one of the eleven colleges and remains as a member of that particular college throughout his/her undergraduate stay. Participants therefore reported answers to questions that involve their sense of belonging to members of their particular college and feelings associated with membership in that particular group. The Perceived Cohesion measure is a six-item Likert scale ranging from 0 (strongly disagree) to 5 (neutral) to 10 (strongly agree). Three of the items pertain to a sense of belonging and the remaining three to feelings of morale (α = .89, Belongingness;

α = .90, Morale; Appendix E; Bollen & Hoyle, 1990). The items in this measure apply to many groups whereby any group can be substituted in the blank. This particular scale has been used in various academic contexts (Bollen & Hoyle, 1990) and in organizational samples (Salisbury, Carte, & Chidambaram, 2006) as well. Example items specifically worded for this study include " I feel a sense of belonging to my residential college," and "I see myself as part of the Rice residential college community."

College stress. Students were asked to report their feelings and thoughts over stress they experience while attending Rice University. The Perceived Stress Scale is a 10-item measure (α = .78; Cohen & Williamson, 1988). Students were asked on a Likert scale from 0 (never) to 4 (very often) questions regarding stress they have experienced while attending Rice during their last and current semester. The assumption was that asking students about their stress over the present and previous semester was a more accurate assessment of their current stress level compared to assessing their general stress levels.

Social support. Students reported their perceptions of support via the Multidimensional Scale of Perceived Support (α = .93; Appendix E; Zimet, Dahlem, Zimet & Farley, 1988). Students were asked on a Likert scale of 1 (very strongly disagree) to 7 (very strongly agree) 8 questions regarding perceived support they receive while attending Rice University. This particular scale was designed to allow participants to interpret items in ways most relevant to themselves (i.e., students were asked to interpret the statements reflected in the scale as they relate to their experience with others who attend Rice University). For example, in previous studies items measuring support from a significant other refer to a "special person," which may be interpreted to mean a

counselor, teacher, classmate, etc (Canty-Mitchell & Zimet, 2000). Note that the multidimensional scale of perceived support contains 12 items in total and are divided in three groups related to the source of the social support. The three groupings are support from family, friends, or significant other. Since this study was only interested in support received from friends and significant others from Rice University the family support scale was excluded (α = .89 for the Friends subscale; α = .91 for the Significant Other subscale).

Results

During the initial inspection of the 42 items across six scales, item means, variances, and inter-item correlations were examined. Items were retained in this initial process as long as items had (1) Variances greater than zero (e.g., not everyone responded to a socially desirable item at the extreme of the scale) and (2) Average inter-item correlations >.15 (Briggs & Cheek, 1986).

After this initial process, six separate EFAs were performed on the data as previously described. Below are the results of each EFA for each respective scale. Note that my decision rule for retaining a single factor was when the first eigenvalue was at least twice as much as the other eigenvalues as well as when there was a clear break in the scree plot between the first and second factors. Items with weak loadings on the first/general factor (< .30) were then deleted.

Proactive emotional support. Eight items were entered for the EFA analysis, and eight items were kept in the final scale (α = .84). The ratio of the first eigenvalue to the second eigenvalue was 3.88/1.05 = 3.7. In the scree plot, a clear break is seen from the

first factor to the second factor. All eight items met the criteria of high loadings (> .30) on the general factor.

Passive/reactive emotional support. Six items were entered in the EFA analysis, and six items were kept in the final scale (α = .86). The ratio of the first eigenvalue to the second eigenvalue was 3.56/.67 = 5.3. In the scree plot, a clear break was seen from the first factor to the second factor. All six items met the criteria of high loadings (> .30) on the general factor.

Negotiation. Seven items were entered in the EFA analysis, and seven items were kept in the final scale (α = .88). The ratio of the first eigenvalue to the second eigenvalue was 4.15/.78 = 5.3. In the scree plot, a clear break was seen from the first factor to the second factor. All seven items met the criteria of high loadings (> .30) on the general factor.

Proactive helping. Six items were entered in the EFA analysis, and six items were kept in the final scale (α = .84). The ratio of the first eigenvalue to the second eigenvalue was 3.40/.76 = 4.5. In the scree plot, a clear break was seen from the first factor to the second factor. All six items met the criteria of high loadings (> .30) on the general factor.

Mentoring. Ten items were entered in the EFA analysis, and ten items were kept in the final scale (α = .84). The ratio of the first eigenvalue to the second eigenvalue was 4.18/1.10 = 3.8. In the scree plot, a clear break was seen from the first factor to the second factor. All ten items met the criteria of high loadings (> .30) on the general factor.

Shared workload. Five items were entered in the EFA analysis, and four items were retained in the final scale (α = .71). The ratio of the first eigenvalue to the second eigenvalue was 2.24/1.07 = 2.1. In the scree plot, a clear break was not clearly seen from

the first factor to the second factor. However, when an EFA was performed, only extracting one general factor, one item did not meet the criteria of a high loading (> .30) on the general factor. Item one: "Did some of the work of a classmate to help him/her get it done on time" was removed from the final scale (*M*= 2.97). Overall, each EFA analysis for each respective scale indicated that most if not all items loaded on a single general factor. From the initial set of 42 items across the six scales, only one item was deleted (see Table 1).

Table 1

Exploratory Factor Analysis Results

Scale	Items		Scale Reliability α	Eigenvalues		Eigenvalue Ratio	Range of Factor Loadings
	Initial	Final		1st Factor	2nd Factor		
Proactive Emotional Support	8	8	.84	3.88	1.05	3.7	.54-.73
Passive Reactive Emotional Support	6	6	.86	3.56	0.67	5.3	.63-.76
Negotiation	7	7	.88	4.15	0.78	5.3	.62-.82
Proactive Helping	6	6	.84	3.40	0.76	4.5	.65-.78
Mentoring	10	10	.84	4.18	1.10	3.8	.44-.73
Shared Workload	5	4	.71	2.24	1.07	2.1	.57-.73

After achieving each final scale, composite scores were created. The criterion to receive a scale score, every participant had to respond to at least 75% of the items for each scale. The means, standard deviations, intercorrelations of the scale composite scores are summarized below (see Table 2).

Scale score analysis. Six composite scores were entered in the EFA analysis to examine whether the scale composite scores converged under one or more factors. One general factor was found to account for all the scale composite scores (α = .86). The ratio of the first eigenvalue to the second eigenvalue was 3.62/.80 = 4.5. In the scree plot, a clear break was seen from the first factor to the second factor. All six composite scores contained loadings (> .30) on the general factor with a factor loading range of (.63-.82). There was also high reliability of the general factor based on all the items (α = .95). As seen in Table 2, all of the Emotional and Instrumental Helping variables are significantly correlated with each other, thus initial tests to find distinct differences along two factors of helping was not found (Hypothesis 1-3). Although the EFA results show that a general factor underlies the scale composite scores, I conducted a two-factor CFA model (as proposed in my conceptual model of the structure of helping) to examine how well (or poorly) the model fits.

Table 2

Descriptive Statistics and Intercorrelations among Scale Score Variables

Scale	*M*	*SD*	1	2	3	4	5	6
Emotional Helping								
1. Proactive Emotional Support	4.61	.65	(.84)					
2. Passive Reactive Emotional Support	4.86	.75	.66**	(.86)				
3. Negotiation	4.04	.81	.56**	.52	(.88)			
Instrumental Helping								
4. Proactive Helping	3.79	.83	.54**	.47	.48**	(.84)		
5. Mentoring	4.00	.72	.67**	.45**	.55**	.70**	(.84)	
6. Shared Workload	4.18	.85	.43**	.39**	.44**	.58**	.59**	(.71)

Note. Alpha reliabilities appear in parentheses along the diagonal.

CFA

The overall goodness-of-fit indices in the model generally suggested modest fit of the two-factor model to the data. Although the CFI and the $\chi 2$ /df fit indices fell in the marginal ranges of acceptable model fit (CFI = .97; $\chi 2$ /df = 2.89), the chi-square statistic was significant ($\chi 2$ (8) = 23.1, $p < .05$) and the RMSEA was higher than the acceptable

cut-off criteria of .06 (RMSEA = .10). Therefore the fit indices, collectively, presented reason enough to suggest that the relationships specified in the model, although promising, would best be understood with further replication. Replication of these results is in order as it can provide independent evidence regarding the quality of the multi-dimensional measure of helping behavior (in Model 1).

Given the slight support for the two-factor theoretical model, a second model was also examined specifying the six a priori item groupings as indicators to load on a single factor labeled as 'Helping' (see Figure 4). In a direct sense, this model weighed against the notion that helping is a multidimensional construct, because all six scales would load on the general construct. However, this model did not preclude the possibility that the six scales are interrelated (suggesting a single general factor), yet demonstrate different patterns of criterion-related validity. I explored this latter possibility with some validity data for this sample.

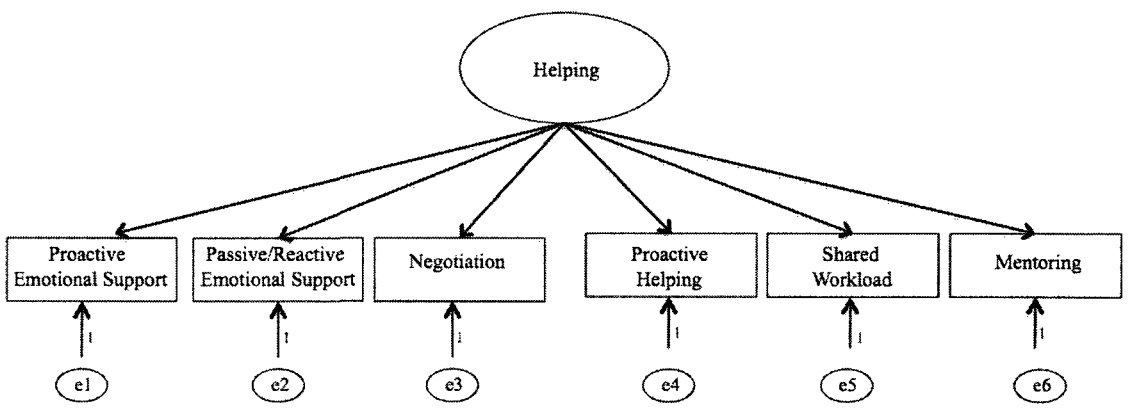

Figure 4. One-Factor CFA Model

The overall goodness-of-fit indices in the general factor model also suggested modest fit ($\chi 2$ (9)= 60.63, $p < .001$; CFI= .91; RMSEA= .17; $\chi 2$ /df = 6.74). Although the

CFI fit statistic was in the marginal range of acceptable model fit (.91), the chi-square statistic was significant, and the RMSEA (.17) was much higher than the cut-off criteria of .06. Results suggested that both the two-factor and one-factor models (Model 1 and Model 2) show modest fit. Note that there was no need to test for the incremental fit of the two-factor model over the one-factor model, because in general, both models did not demonstrate overwhelming results of good fit.

It is also important to mention that in both models, aggregate scale scores were used instead of explicitly modeling the items retained in the exploratory factor analysis. As a reminder, six individual EFAs were conducted whereby any relationships between items from different factors are interpreted as correlations between factors. Yet, modeling an additional two-factor model with each item (as an effect indicator) loading onto its respective factor can be used to verify whether relationships between items from different factors show up as correlations between factors.

The overall goodness-of-fit indices in the third model suggested modest fit ($\chi 2$ (772)= 1475.01, $p < .001$; CFI= .79; RMSEA= .07; $\chi 2$ /df =1.91). Although the CFI (.79), the RMSEA (.07) and the $\chi 2$ /df (1.91) fit indices fell in the marginal ranges of acceptable model fit the chi-square statistic was significant. Results suggest that the two-factor with items as indicators to higher order factors show modest fit (see Table 3).

Table 3

CFA Model Tests and Criteria

Model	Description	$\chi 2$	*df*	RMSEA	CFI
Model 1	Two-factor model where proactive emotional support, passive/reactive support, and negotiation load onto Emotional Helping; proactive helping, mentoring, and shared workload load onto Instrumental Helping.	23.10	8	.10	.97
Model 2	One-factor model where proactive emotional support, passive/reactive support, negotiation, proactive helping, mentoring, and shared workload load onto a general factor of Helping.	60.63	9	.17	.91
Model 3	Two-factor model where 41- items load onto six scales. Proactive emotional support, passive/reactive support, and negotiation scales load onto Emotional Helping; proactive helping, mentoring, and shared workload load onto Instrumental Helping.	1475.01	772	.07	.79

Note. $N = 201$. RMSEA = root-mean-square error of approximation; CFI = comparative fit index. $*p < .05$.

Validity Analysis

Table 4 includes means, standard deviations, and intercorrelations between all the variables in this study. Seven hierarchical regressions were performed to examine how predictive SAT scores, personality, and helping are of student satisfaction, academic achievement, college commitment, perceived cohesion, academic performance and college stress. For each criterion, SAT and personality were entered first; then the six helping scales were entered, each scale score being an unweighted mean of the constituent helping items. For each criterion variable, the helping variables were believed to provide statistically and practically significant incremental validity over cognitive ability and the Big Five personality variables. Zero-order correlations and regression

weights were examined in tandem to interpret the validity and incremental validity (respectively) of the helping scales.

Table 4

Descriptive Statistics, Reliability Estimates, and Correlations

Variable	*M*	*SD*	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1. Gender	1.66	.48	-																						
2. Age	19.3	1.60	-.01	-																					
3. Year in College	1.81	.99	-.06	.57 **	-																				
4. SAT Math	714.18	71.06	-.14 *	.06	.06	-																			
5. SAT Verbal	695.16	96.84	.00	-.09	-.12	.40 **	-																		
6. Extraversion	3.48	.86	.11	-.03	-.01	.01	-.05	(.87)																	
7. Agreeableness	3.95	.55	.30 **	-.06	-.02	.05	-.11	.27 **	(.82)																
8. Conscientiousness	3.59	.66	.00	.13	.16 *	-.07	-.08	-.10	.05	(.79)															
9. Stability	3.22	.74	-.27 **	.01	.04	-.02	-.08	.03	.004	.09	(.86)														
10. Intellect	3.65	.53	-.11	-.08	-.10	.06	.17 *	.15 *	.06	.06	-.03	(.84)													
11. Proactive Emotional Support	4.61	.65	.13	-.16 *	-.15 *	.03	-.08	.25 **	.47 **	.03	-.02	.21 **	(.84)												
12. Passive Reactive Emotional Support	4.86	.75	.32 **	-.13	-.04	-.02	-.03	.26 **	.66 **	.001	-.08	.15 *	.66 **	(.86)											
13. Negotiation	4.04	.81	.13	-.02	-.06	.05	-.05	.26 **	.42 **	-.06	-.01	.22 **	.56 **	.52 **	(.88)										
14. Proactive Helping	3.79	.83	.09	-.17 *	-.16 *	.17 *	.01	.15 *	.32 **	.005	-.10	.09	.54 **	.47 **	.48 **	(.84)									
15. Mentoring	4.00	.72	.03	-.11	-.14 *	.12	-.01	.16 *	.28 **	.004	-.03	.15 *	.67 **	.45 **	.55 **	.70 **	(.84)								
16. Shared Workload	4.18	.85	-.02	-.09	-.13	.11	.02	.12	.23 **	-.03	.05	.11	.43 **	.39 **	.44 **	.58 **	.59 **	(.71)							
17. College Satisfaction	5.14	.90	-.06	-.06	-.09	.03	.05	.08	.15 *	.21 **	.21 **	.13	.26 **	.20 **	.06	.14 *	.22 **	.16 *	(.86)						
18. College Commitment	1.39	.70	.12	.02	.15 *	.17 *	.04	.29 **	.27 **	.12	-.04	.13	.18 **	.24 **	.23 **	.11	.09	.10	.06	-					
19. Intentions to Withdraw from College	2.36	.32	.04	-.02	-.30 **	.04	.08	-.05	-.09	-.14 *	-.07	.04	-.08	-.08	.02	.01	-.04	.01	-.01	-.16 *	-				
20. Cumulative GPA	3.54	.42	.03	.02	-.01	.40 **	.34 **	-.06	.04	.16 *	-.09	.01	-.04	-.07	-.05	.09	.01	-.01	.32 **	.12	-.07	-			
21. Cohort Cohesion	8.43	2.34	.08	-.29 **	-.27 **	.11	.10	.26 **	.32 **	-.05	.15 *	.09	.35 **	.31 **	.25 **	.20 **	.21 **	.22 **	.25 **	.18 **	-.02	-.03	(.89)		
22. College Stress	3.23	.31	.15 *	-.05	-.05	-.07	-.10	.11	.10	-.03	-.47 **	.13 *	.26 **	.18 **	.23 **	.17 *	.22 **	.11	-.10	.05	.003	.01	-.09	(.78)	
23. College Social Support	5.52	1.26	.18 **	-.08	-.02	.04	-.13	.37 **	.46 **	.05	.12	.02	.40 **	.41 **	.27 **	.21 **	.26 **	.20 **	.36 **	.15 *	-.06	.10	.36 **	.05	(.90)

Note. Alpha reliabilities appear in parentheses along the diagonal (where applicable). * $p < .05$. ** $p < .01$.

College satisfaction. Cognitive ability and personality (Step 1) accounted for 5.1% (Adjusted R^2) of the variance in college satisfaction. With the inclusion of the six helping scales in the final model (Step 2), this value increased to 8.6% (Adjusted R^2). The change, however, from the initial to the final model did not significantly improve the ability to predict college satisfaction (F (6, 175) = 1.98, $p > .05$). Based on the simpler model (F (7, 181) = 2.60, $p < .05$) only Agreeableness (t (181) = 2.02, $p < .05$), Conscientiousness (t (181) = 2.19, $p < .05$), and Emotional Stability (t (181) = 2.03, $p < .05$) coefficients were significant predictors of college satisfaction. Holding the other variables constant, each of these personality variables predicted a .15 standard deviation increase in college satisfaction, approximately. Overall, from the magnitude of the t-statistics, Conscientiousness had a slight more impact than Agreeableness and Emotional stability in predicting college satisfaction (see Table 4).

Table 5

Summary of Hierarchical Regression Analysis for Variables Predicting College Satisfaction ($N = 188$)

Variable	Step 1		Step 2	
	B	*B**	*B*	*B**
SAT Math	.00	.01	.00	-.01
SAT Verbal	.00	.07	.00	.10
Extraversion	.05	.05	.32	.03
Agreeableness	.25	.15*	.07	.04
Conscientiousness	.22	.16*	.23	.17*
Intellect	.15	.09	.09	.05
Emotional Stability	.17	.15*	.2	.17*
Proactive Emotional Support			.30	.21
Passive/Reactive Emotional Support			.12	.10
Negotiation			-.19	-.17
Proactive Helping			.01	.01
Mentoring			.06	.04
Shared Workload			.07	.07
R^2	.09*		.15*	
ΔR^2			$.06^{ns}$	

Note. B = unstandardized regression coefficients; B*= standardized regression coefficients; *ns = not significant;* * = $p < .05$.

Intentions to withdraw from college. The initial model (Step 1) accounted for 1.4% (Adjusted R^2) of the variance in intentions to withdraw from college. With the inclusion of the six helping scales in the final model (Step 2), this value did not increase (Adjusted $R^2 = 0$). The change from the initial to the final model did not significantly improve the ability to predict intentions to withdraw from college ($F (6, 175) = .58$, $p > .05$). Additionally, neither the initial ($F (7, 181) = 1.37$, $p = .22$) nor final model ($F (13, 175) = 1.0$, $p = .46$) significantly predicted intentions to withdraw from college (see Table 5). Examining the predictors independently, based on both models, only Conscientiousness was a significant predictor of intentions to withdraw from college ($t (181) = 2.17$, $p < .05$; $t (175) = 2.22$, $p < .05$).

Table 6

Summary of Hierarchical Regression Analysis for Variables Predicting Intentions to Withdraw from College ($N = 188$)

Variable	Step 1		Step 2	
	B	*B**	*B*	*B**
SAT Math	.00	.01	.00	.00
SAT Verbal	.00	.03	.00	.02
Extraversion	-.03	-.07	-.03	-.07
Agreeableness	-.05	-.09	-.04	-.06
Conscientiousness	-.08	-.16*	-.08	-.17*
Intellect	.06	.10	.07	.11
Emotional Stability	-.02	-.04	-.02	-.05
Proactive Emotional Support			-.07	-.14
Passive/Reactive Emotional Support			-.02	-.05
Negotiation			.04	.10
Proactive Helping			.04	.10
Mentoring			-.02	-.05
Shared Workload			.00	.01
R^2	.05		.07	
ΔR^2			$.02^{ns}$	

Note. *B* = unstandardized regression coefficients; *B**= standardized regression coefficients; *ns* = *not significant;* * = $p < .05$; ** = $p < .001$.

Perceived cohort cohesion. The initial model (Step 1) accounted for 15.5% (Adjusted R^2) of the variance in perceived cohort cohesion. With the inclusion of the six helping scales in the final model (Step 2), this value increased to 20.1% (Adjusted R^2). The change from the initial to the final model significantly improved the ability to predict perceived cohort cohesion (F (6, 175) = 2.74, $p < .05$). Based on the final model (F (13, 175) = 4.63, $p < .001$) only SAT Verbal (t (175) = 2.10, $p < .05$), Extraversion (t (175) = 2.30, $p < .05$), Emotional Stability (t (175) = 2.50, $p < .05$), and Proactive Emotional Support (t (175) = 5.50, $p < .001$) coefficients were significant predictors of college satisfaction. Overall, from the magnitude of the t-statistics, Perceived Emotional Support had more impact than SAT Verbal scores, Extraversion and Emotional stability in predicting perceived cohort cohesion (see Table 6). Holding the other variables in the model constant, perceived emotional support predicted a .37 standard deviation increase in cohort cohesion, while these other variables predicted a .16-.17 standard deviation increase.

Table 7

Summary of Hierarchical Regression Analysis for Variables Predicting Cohort Cohesion Satisfaction ($N = 188$)

Variable	Step 1		Step 2	
	B	*B**	*B*	*B**
SAT Math	.00	.07	.00	.06
SAT Verbal	.00	.12	.00	.16*
Extraversion	.56	.20*	.45	.16*
Agreeableness	1.14	.26**	.72	.17
Conscientiousness	.03	.01	.11	.03
Intellect	.16	.04	-.11	-.03
Emotional Stability	.50	.16*	.52	.17*
Proactive Emotional Support			1.4	.37*
Passive/Reactive Emotional Support			-.10	-.03
Negotiation			-.06	-.02
Proactive Helping			-.09	-.03
Mentoring			-.34	-.10
Shared Workload			.22	.08
R^2	.19*		.26*	
ΔR^2			.07*	

Note. *B* = unstandardized regression coefficients; *B**= standardized regression coefficients; *ns = not significant;* * = $p < .05$; ** = $p < .001$.

Academic performance. The initial model (Step 1) accounted for 21.7% (Adjusted R^2) of the variance in academic performance. With the inclusion of the six helping scales in the final model (Step 2), this value increased to 22.3% (Adjusted R^2). The change, however, from the initial to the final model did not significantly improve the ability to predict academic performance (F (6, 173) = 1.21, $p > .05$). Based on the initial model (F (7, 179) = 8.38, $p < .001$) only SAT Math (t (179) = 4.23, $p < .001$), SAT Verbal (t (179) = 3.23, $p < .05$), and Conscientiousness (t (175) = 2.72, $p < .05$) coefficients were significant predictors of academic performance. Overall, from the magnitude of the t-statistics, SAT Math had slightly more impact than SAT Verbal scores and Conscientiousness in predicting academic performance (see Table 7). Holding other variables in the model constant, predicted standard deviation increases in academic performance were found for SAT Math (.31), SAT Verbal (.25), and Conscientiousness (.18).

Table 8

Summary of Hierarchical Regression Analysis for Variables Predicting Academic Performance ($N = 188$)

Variable	Step 1		Step 2	
	B	*B**	*B*	*B**
SAT Math	.00	.31**	.00	.28**
SAT Verbal	.00	.25*	.00	.24*
Extraversion	.01	.02	.02	.04
Agreeableness	.01	.01	.09	.12
Conscientiousness	.11	.18*	.10	.16*
Intellect	-.05	-.06	-.01	-.02
Emotional Stability	-.06	-.11	-.06	-.11
Proactive Emotional Support			-.07	-.11
Passive/Reactive Emotional Support			-.07	-.12
Negotiation			-.05	-.10
Proactive Helping			.07	.13
Mentoring			-.001	-.002
Shared Workload			.00	.01
R^2	.25*		.28*	
ΔR^2			$.03^{ns}$	

Note. *B* = unstandardized regression coefficients; *B**= standardized regression coefficients; *ns = not significant;* * = $p < .05$; ** = $p < .001$.

College commitment. The initial model (Step 1) accounted for 15.5% (Adjusted R^2) of the variance in college commitment. With the inclusion of the six helping scales in the final model (Step 2), this value increased to 16% (Adjusted R^2). The change, however, from the initial to the final model did not significantly improve the ability to predict college commitment (F (6, 175) = 1.19, $p > .05$). Based on the initial model (F (7, 181) = 5.92, $p < .001$) only SAT Math (t (181) = 2.39, $p < .05$), Extraversion (t (181) = 3.42, $p < .05$), Agreeableness (t (181) = 2.53, $p < .05$) and Conscientiousness (t (181) = 2.72, $p < .05$) coefficients are significant predictors of college commitment. Overall, from the magnitude of the t-statistics, Extraversion has slightly more impact than SAT Math, Agreeableness, and Conscientiousness in predicting college commitment (see Table 8). Holding the other variables in the model constant, Extraversion predicted a .28 standard deviation increase in college commitment, while these other variables predicted a .18-.19 standard deviation increase.

Table 9

Summary of Hierarchical Regression Analysis for Variables Predicting College Commitment ($N = 188$)

Variable	Step 1		Step 2	
	B	*B**	*B*	*B**
SAT Math	.00	.18*	.00	.21*
SAT Verbal	.00	.02	.00	.02
Extraversion	.21	.25*	.20	.24*
Agreeableness	.24	.18*	.14	.11
Conscientiousness	.20	.19*	.22	.20*
Intellect	.04	.03	.00	.00
Emotional Stability	-.04	-.04	-.05	-.05
Proactive Emotional Support			.08	.07
Passive/Reactive Emotional Support			.12	.12
Negotiation			.07	.08
Proactive Helping			-.15	-.17
Mentoring			-.11	-.11
Shared Workload			.07	.08
R^2	.19*		.22*	
ΔR^2			$.03^{ns}$	

Note. *B* = unstandardized regression coefficients; *B**= standardized regression coefficients; *ns* = *not significant;* * = $p < .05$.

College stress. The initial model (Step 1) accounted for 26.4% (Adjusted R^2) of the variance in college stress. With the inclusion of the six helping scales in the final model (Step 2), this value increased to 30.6% (Adjusted R^2). The change from the initial to the final model significantly improved the ability to predict college stress (F (6, 175) = 2.82, p < .05). Based on the final model (F (13, 175) = 7.36, p < .001) only Emotional Stability (t (175) = 7.79, p < .001) and Proactive Emotional Support (t (175) = 2.60, p < .05) coefficients were significant predictors of college stress. Overall, from the magnitude of the t-statistics, Emotional Stability had slightly more impact than Proactive Emotional Support in predicting college stress (see Table 9). Holding other variables in the model constant, predicted standard deviation increases in college stress were found for Emotional Stability (.49) and Proactive Emotional Support (.26).

Table 10

Summary of Hierarchical Regression Analysis for Variables Predicting College Stress (N = 188)

Variable	Step 1		Step 2	
	B	*B**	*B*	*B**
SAT Math	.00	-.05	.00	-.07
SAT Verbal	.00	-.15*	.00	-.12
Extraversion	.03	.07	.01	.03
Agreeableness	.00	.00	-.06	-.10
Conscientiousness	-.01	-.02	.00	.01
Intellect	.10	.18*	.06	.11
Emotional Stability	-.21	-.49**	-.20	-.49**
Proactive Emotional Support			.13	.26*
Passive/Reactive Emotional Support			-.01	-.02
Negotiation			.02	.05
Proactive Helping			-.01	-.03
Mentoring			.02	.05
Shared Workload			.00	.00
R^2	.29*		.35*	
ΔR^2			.06*	

Note. *B* = unstandardized regression coefficients; *B**= standardized regression coefficients; *ns = not significant;* * = $p < .05$; ** = $p < .001$.

College social support. The initial model (Step 1) accounted for 31.9% (Adjusted R^2) of the variance in college social support. With the inclusion of the six helping scales in the final model (Step 2), this value increased to 34.3% (Adjusted R^2). The change from the initial to the final model marginally improved the ability to predict college social support (F (6, 175) = 2.07, p = .06). Based on the initial model (F (7, 181) = 13.60, $p <$ .001) only Extraversion (t (181) = 4.10, $p < .001$) and Agreeableness (t (181) = 6.62, $p <$ .001) coefficients were significant predictors of college social support. Overall, from the magnitude of the t-statistics, Agreeableness had slightly more impact than Extraversion in predicting college social support (see Table 10). Holding other variables in the model constant, predicted standard deviation increases in college social support were found for Extraversion (.26) and Agreeableness (.42).

Comparatively, considering the marginally significant change from the initial to the final model (F (13, 175) = 8.54, $p < .001$), Extraversion (t (175) = 3.87, $p < .001$), Agreeableness (t (175) = 4.11, $p < .001$), Proactive Emotional Support (t (175) = 1.93, p = .06) and Proactive Helping (t (175) = 2.0, $p < .05$) coefficients were significant predictors of college social support. Overall, from the magnitude of the t-statistics, Agreeableness had slightly more impact than Extraversion, Proactive Emotional Support, and Proactive Helping in predicting college social support (see Table 10). Holding other variables in the model constant, predicted standard deviation increases in college social support were found for Extraversion (.25), Agreeableness (.34), Proactive Emotional Support (.19), and Proactive Helping (.18).

Table 11

Summary of Hierarchical Regression Analysis for Variables Predicting College Social Support ($N = 188$)

Variable	Step 1		Step 2	
	B	*B**	*B*	*B**
SAT Math	.00	.07	.00	.08
SAT Verbal	-.001	-.09	-.001	-.07
Extraversion	.40	.26**	.37	.25**
Agreeableness	.98	.42**	.80	.34**
Conscientiousness	.08	.04	.12	.06
Intellect	-.13	-.05	-.22	-.10
Emotional Stability	.19	.11	.19	.12
Proactive Emotional Support			.37	.19*
Passive/Reactive Emotional Support			.15	.09
Negotiation			-.13	-.09
Proactive Helping			-.28	-.18*
Mentoring			.12	.07
Shared Workload			.13	.09
R^2	.35*		.39*	
ΔR^2			$.04^{ns}$	

Note. *B* = unstandardized regression coefficients; *B**= standardized regression coefficients; *ns* = *not significant;* * = $p < .05$; ** = $p < .001$.

In general, personality traits and cognitive ability measures account for most of the variance in the majority of the hypothesized relationships, and the six helping scales do not add statistically or practically significant incremental validity, with a few notable exceptions. Personality traits and cognitive ability predicted academic performance, college satisfaction and commitment whereas each of the helping scales did not (Hypothesis 4). Support for specific relationships between Emotional and Instrumental Helping composites and criteria were not found. Of the six helping scales only two scales – Proactive Emotional Support and Proactive Helping were predictive of cohort cohesion, college stress and college social support. Specifically, Proactive Emotional Support was significantly predictive of cohort cohesion above and beyond personality and cognitive ability measures; it was also predictive of college stress. Lastly, apart from personality, Proactive Emotional Support and Proactive Helping were predictive of college social support.

Validity coefficients of the two helping composites (Emotional and Instrumental helping) with criteria were also calculated. In general, both instrumental and emotional helping had significant positive relationships with the criteria of interest used in this study. There were no significant relationships between the two helping composites and student's intentions to withdraw from college, and student's cumulative GPA. Based on the significant relationships found, however, emotional helping had a stronger relationship than did instrumental helping with criteria of interest. It is also interesting to mention that emotional helping had a significant positive relationship with a student's level of college commitment, but this criterion had no significant relationship with instrumental helping. Below is a short summary of the significant relationships found.

College satisfaction. Instrumental and Emotional helping scale composites had a positive significant relationship with student's level of college satisfaction ($r = .19$, $r = .20$, $p < .01$, respectively).

Perceived cohesion. Instrumental and Emotional helping scale composites had a positive significant relationship with student's level of cohort cohesion ($r = .23$, $r = .36$, $p < .01$, respectively). This positive relationship is slightly stronger with emotional helping compared to instrumental helping.

College stress. Instrumental and Emotional helping scale composites had a positive significant relationship with student's level of college stress ($r = .20$, $r = .25$, $p < .01$, respectively). This positive relationship is slightly stronger with emotional helping compared to instrumental helping.

Social support. Instrumental and Emotional helping scale composites had a positive significant relationship with student's level of college social support ($r = .26$, $r = .41$, $p < .01$, respectively). This positive relationship is stronger with emotional helping compared to instrumental helping.

Table 12
Validity Coefficients of Emotional and Instrumental Helping with Criteria of Interest

Variable	1	2	3	4	5	6
1. Instrumental Helping	-					
2. Emotional Helping	.66 **	-				
3. College Satisfaction	.19 **	.20 **	-			
4. Intentions to Withdraw from College	-.01	-.05	-.01	-		
5. Cohort Cohesion	.23 **	.36 **	.25 **	-.02	-	
6. College Stress	.20 **	.25 **	-.10	.003	-0.9	-
7. College Social Support	.26 **	.41 **	.36 **	-.06	.36 **	.05
8. Commitment	.13	.25 **	.06	-.16 *	.18 **	.05
9. GPA	.04	-.07	.32 **	-.07	-.03	.01

** $p > 0.01$. * $p > 0.05$.

Discussion

This study attempted to address gaps within the helping literature to better understand whether different dimensions of helping behavior, versus helping in general, are predictive of specific organizational outcomes (e.g., satisfaction, performance, and commitment). With regard to confirmatory analyses on the study's sample, a multidimensional model of the helping scales did not fit the data well, however, six scales representing dimensions of helping were developed on the basis of distinctive content with a theoretical basis. It was also thought that even if these scales are highly correlated and can be reasonably summarized by a single general factor, the scales may still have enough unique variance to demonstrate discriminant validity based on relationships between scales and criteria that were hypothesized a priori. Results showed that two of the six helping scales demonstrated limited support to predict three of the seven criterion variables. These initial findings provide at least modest evidence that treating helping behavior along varying dimensions could be more useful for differential prediction of specific relationships than helping at the general level.

The findings in this study, for example, suggest that Proactive Emotional Support and Proactive Helping are two dimensions in helping that are predictive of college stress, cohort cohesion, and college social support. Taken together, the association between these helping dimensions and criteria, suggest that interpersonal helping relationships are important and play a role in the psychological maintenance of a student body, above and beyond students' personality and level of general cognitive ability. Considering that emotionally supportive behaviors have been found to decrease stress, foster commitment, and improve satisfaction in organizations (Bowling et al., 2005; Kao & SekHong, 1993),

it is not surprising to see that students who provide these forms of helping behavior in turn feel more supported and close to their own cohort. Alternatively or additionally, it may be that volunteering help, providing praise and positive regard to others in a cohort increases cohesion and social support, and that in turn reduces the stress of the helper.

There is also the possibility that the findings between the two helping scales and outcomes may stem from a 'proactivity' component. As of yet, there is no definitive literature that can fully attest to the findings between these 'proactive' behaviors and their respective outcomes. In a theoretical review of proactive behaviors, as they relate to specific social processes, authors Grant and Ashford (2008) peripherally suggest that individuals who engage in behaviors with a proactive component may do so to "improve and accelerate the socialization process with others." Therefore, the extent to which this study showed relationships between 'proactive' helping behaviors, social support, cohesion, and stress may only be best understood from a socialization perspective. In addition, there was no strong statistical evidence to argue for the relationships between these findings as they relate to a proactive component. Future research in examining the direct or mediated relationships between helping behaviors, stress, support and group cohesion may prove useful.

Aside from helping behavior, personality dimensions and SAT scores were moderate predictors of academic performance, college satisfaction, college commitment, cohesion and college support. Consistent with previous research, the strongest predictors of academic performance were SAT scores and conscientiousness (Noftle & Robins, 2007). Conscientiousness encompasses the personal traits of discipline, structure, and dependability (Organ et al., 2006). In general, conscientious individuals are also

achievement oriented (i.e., they consistently attend class, and work hard to perform well on exams) as such, based on previous research findings, it was unsurprising to see these results replicated in this study. Conscientiousness also was the only significant predictor of intentions to withdraw from college. Although students were only asked three questions regarding whether they intended to leave Rice University, evidence shows that students who self-reported higher levels of conscientiousness also tended to report decreased intentions to leave college. In this regard, students who report themselves as go getters, dutiful and academically oriented are probably motivated to be consistent between their behaviors and beliefs of who they perceive themselves to be.

Agreeableness, conscientiousness and emotional stability were most predictive of college satisfaction and college commitment. Interestingly, these personality characteristics appear to have more practical implications for what compels students to remain in college independent of their academic achievement. This idea is further reinforced as the correlations between academic achievement and satisfaction (r =.32, p < .05) and academic achievement and commitment (r =.12, p = .07) were moderate to low. Thus, traits that involve friendliness, the ability to get along well with others, and personal stability are precursors to social interactions that improve the college experience. Therefore, another consideration for future studies is to test whether the relationship between helping behaviors and organizational outcomes is best predicted by personality characteristics. Note that main question concerning validity in the present study was not whether helping behavior would predict academic performance, withdrawal, and other criteria, and not whether personality and cognitive ability would predict these criteria (we know they do), but whether helping would demonstrate validity

above and beyond that for personality and cognitive ability. I can say the answer to this question is yes, but only to a very limited extent in the present study.

Although previous research suggests that it is important to consider helping behaviors as they relate to organizational outcomes in a more refined way, a possible caveat maybe that finding relationships between specific helping dimensions and organizational outcomes are sample specific. For instance, this study used a college sample where types of helping behavior may not be as clearly distinct to students as they might be to a sample of employees. Focusing on samples of employees that would demonstrate work-related helping would further research on the dimensional nature of helping, as would measuring helping behaviors using methods that go beyond self-report methods, such as by gathering data from peer and/or supervisor reports.

Clearly, there are unique features of employment versus academic settings. For example, organizational culture, job position, and job responsibilities play a larger role in the types of behaviors individuals exhibit and offer to other employees (whereas such factors are indifferent or at least of less importance to college students). This observation suggests that college students may approach their helping behaviors from an affective standpoint whereas employees in an organization approach helping from a more calculative standpoint (Settoon & Mossholder, 2002). In addition, future research using employee samples may also provide a better alternative to examine mentoring relationships, negotiation, and shared workload behaviors, as these behaviors are more common in the professional setting.

Further research in the dimensionality of helping behaviors should still be explored. Perhaps, examining helping behavior is more relevant in industry versus in

college as interactions between employees are more interdependent and carry greater organizational implications (e.g., workflow, effectiveness, and group performance). In addition using an exhaustive helping measure will provide organizations the opportunity to distinguish the type of employee to select and develop in order to promote the type of helping they desire for their employees. Organizations should first determine the relative importance of helping behaviors, as they contribute to organizational goals and effectiveness. Distinguishing between multiple dimensions of helping behavior can shed light on the formal practices organizations choose to implement, change, and influence the work climate for helping.

Given the modest results in the CFA analysis, there are three main suggestions that can be made to improve the development of a multidimensional measure of helping. The first suggestion relates to item content. The six-scales that would comprise the multi-dimensional measure contained items that reflected student-helping behaviors, however, those items originally came from a card sorting process that reflected at-work helping behaviors. This suggests the possibility that not finding great modeling results may be due to item wording. It might also indicate that the rigorous sorting procedures that were performed for the original set of items could have also been performed for the reworded items given to the college-based sample. This extra step could have highlighted whether or not slightly modifying an item, reflecting help from a 'co-worker' to a 'student,' could alter how items are interpreted and sorted along the six helping dimensions. A future step (if using a college sample) would be to re-sort the items, and re-interpret the meaning of the six helping dimensions. This may mean that a current helping dimension such as 'Shared Workload' may not be as appropriate as a helping dimension that could be

labeled 'Group Productivity.' The former dimension, to a student, may be interpreted as cheating, whereas the latter label may provide a more appropriate context to reflect on helping behaviors given to others.

Another step related to item content would be to use the original set of the sorted 42 at-work helping items with an organizational sample. This procedure could also reflect the quality of the helping items and identify whether additional items might be needed. In a similar same vein, having additional items could also improve the reliability of the six helping scales. This leads into the second suggestion: increasing the number of items that better reflect helping dimensions could influence CFA modeling results. This suggestion means that obtaining more items from literature related to yet independent of the helping, and OCB literature could prove useful.

The last practical implication, based on the CFA results, is that initially using a development sample could first indicate how well items reflect their intended dimensions and whether the content of the items could be improved. From that point, an independent sample could be used for the validation portion in developing the measure. I would also suggest that using different criteria, beyond what was used in this study, can provide a better understanding of what helping behaviors have to offer and provide to both the giver and the receiver of the help (e.g., employee communication and employee collaboration).

Even though a developing a multidimensional measure was not feasible in this study using the six scales independently can also provide useful information for organizations in relation to the effects that helping behavior can have on specific

organizational outcomes. Specifically, organizations may be interested in knowing the extent to which forms of help can influence organizational climates that are important for the overall effectiveness of the organization. James and James (1989) describe four dimensions they identify as components to organizational climate: (1) role stress and lack of harmony; (2) job challenge and autonomy; (3) leadership facilitation and support; and (4) work group cooperation, friendliness, and warmth. The third and fourth dimensions are most closely related to helping behavior, it would therefore be interesting to examine how climate perceptions which are associated with important outcomes (e.g., job satisfaction, individual performance, and turnover intentions) are influenced by helping behavior and helping behavior dimensions. This assessment is important as it can relay useful information for organizations as a means to informally encourage helping behaviors between employees.

In recent years there has been research examining the relationship between social interactions amongst employees (e.g., friendship interactions, workflow interactions and reality-testing interactions) and climate perceptions (Rentch, 1990). General findings show that providing employees with supportive behaviors (e.g., Leader member exchange, norm of reciprocity, and altruistic citizenship behavior) does influence organizational climate, however, the extent to which this relationship holds true is often linked to perceptions of procedural justice (Kamdar, McAllister, & Turban, 2006; Parker, et al., 2003). It would be interesting to examine whether direct effects between types of helping behavior and climate perceptions are found after controlling for procedural justice perceptions. Following this logic, it is just as important to test whether helping is an antecedent or an outcome to climate perceptions.

Furthermore, using the six scales can be informative in explaining how they influence overall performance evaluations. Thus, do supervisors place more value in instrumental helping scales versus emotional based helping scales? Performance appraisals can also be influenced by how similar or dissimilar supervisors feel they are from their employees (Fay & Latham, 1982). Generally, the level of match between supervisor values and their employees' behaviors influence rater judgment; therefore helping behaviors should be considered in the context of performance evaluations.

It may be the case that supervisors who value task productivity above and beyond employee's personal satisfaction with their work will give higher performance ratings to employees engaging in task versus emotional based helping. Inversely, if supervisors are more interested in employee happiness and satisfaction on the job they will place more value on emotional based helping versus instrumental helping. Congruent value systems may lead to more favorable performance appraisals for an employee. Although these hypotheses are too general to cover in this thesis, previous research has substantiated that a supervisor values helping behaviors from his/her employees (Van Dyne & LePine, 1998). However, knowing the extent to which supervisors value a particular type of help from their employee would provide more specific and useful information concerning how employee behavior affects performance ratings.

In conclusion, the objective of the present thesis was to examine a two-dimensional model of helping behavior, distinguishing between emotional and instrumental helping, subdividing each of these higher-order factors into three dimensions. Although six scales reflecting helping behavior were developed, a multidimensional model of helping did not fit the data from my sample well. Some

empirical support was found for two helping scales, in addition to using cognitive ability and personality, to predict academic criteria. These results may not directly generalize to organizations, but they aid in understanding the nature and importance of helping behavior, and hopefully future research in this area can offer new avenues in the exploration of helping dimensions across a variety of employment contexts.

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Appendix A1

CPB Items Arranged According to Cluster Analysis

Citizenship Performance Behaviors and their sources

Item	Cluster	Sub-cluster
Altruism in helping individual organization members.	Interpersonal Citizenship Performance	Interpersonal Altruism
Assisting co-workers with personal matters.	Interpersonal Citizenship Performance	Interpersonal Altruism
Engaging in behavior that benefits individuals in the organization.	Interpersonal Citizenship Performance	Interpersonal Altruism
Helping other organization members.	Interpersonal Citizenship Performance	Interpersonal Altruism
Keeping others in the organization informed about upcoming events, activities, actions, etc.	Interpersonal Citizenship Performance	Interpersonal Conscientiousness
Synergizing others through participation in the organization.	Interpersonal Citizenship Performance	Interpersonal Conscientiousness
Engaging responsibly in meetings and group activities.	Interpersonal Citizenship Performance	Interpersonal Conscientiousness
Cooperating with other organization members.	Interpersonal Citizenship Performance	Interpersonal Conscientiousness
Promoting and defending the organization	Organizational Citizenship Performance	Organizational Allegiance/Loyalty
Maintaining a positive attitude about the organization.	Organizational Citizenship Performance	Organizational Allegiance/Loyalty
Endorsing , supporting, or defending organizational objectives.	Organizational Citizenship Performance	Organizational Allegiance/Loyalty
Not complaining about organizational conditions.	Organizational Citizenship Performance	Organizational Allegiance/Loyalty
Demonstrating allegiance to the organization.	Organizational Citizenship Performance	Organizational Allegiance/Loyalty
Staying with the organization despite hardships or difficult conditions.	Organizational Citizenship Performance	Organizational Allegiance/Loyalty
Following organization rules and procedures.	Organizational Citizenship Performance	Organizational Compliance
Demonstrating conscientiousness in support of the organization.	Organizational Citizenship Performance	Organizational Compliance
Participating responsibly in the organization.	Organizational Citizenship Performance	Organizational Compliance
Demonstrating respect for organizational rules and policies.	Organizational Citizenship Performance	Organizational Compliance
Engaging in behavior that benefits the organization.	Organizational Citizenship Performance	Organizational Compliance
Suggesting procedural, administrative, or organizational improvements.	Organizational Citizenship Performance	Organizational Compliance
Persisting with enthusiasm on own job.	Job/Task Conscientiousness	Not Applicable
Putting forth extra effort on own job.	Job/Task Conscientiousness	Not Applicable
Volunteering to carry out tasks not part of own job.	Job/Task Conscientiousness	Not Applicable
Working hard with extra effort.	Job/Task Conscientiousness	Not Applicable
Engaging in self-development to improve one's own effectiveness.	Job/Task Conscientiousness	Not Applicable
Providing extra service or help to customers.	Job/Task Conscientiousness	Not Applicable
Displaying dedication on the job.	Job/Task Conscientiousness	Not Applicable

Note. From "Investigating the underlying relationship structure of the citizenship performance domain," by V. I. Coleman and W. C. Borman, 2000, *Human Resource Management Review, 10*, p. 36. Copyright 2000 by Elsevier Science Inc. Adapted with permission.

Appendix A2

ICB Measure

Interpersonal Citizenship Items

Item	ICB category
Listens to coworkers when they have to get something off their chest.	Person-focused
Takes time to listen to coworkers' problems and worries.	Person-focused
Takes a personal interest in coworkers.	Person-focused
Shows concern and courtesy toward coworkers, even under the most trying business situations.	Person-focused
Makes an extra effort to understand the problems faced by coworkers.	Person-focused
Always goes out of the way to make newer employees feel welcome in the work group.	Person-focused
Tries to cheer up coworkers who are having a bad day.	Person-focused
Compliments coworkers when they succeed at work.	Person-focused
Takes on extra responsibilities in order to help coworkers when things get demanding at work.	Task-focused
Helps coworkers with difficult assignments, even when assistance is not directly requested.	Task-focused
Assists coworkers with heavy work loads even though it is not part of job.	Task-focused
Helps coworkers who are running behind in their work activities.	Task-focused
Helps coworkers with work when they have been absent.	Task-focused
Goes out of way to help coworkers with work-related problems.	Task-focused

Note. From "Relationship quality and relationship context as antecedents of person- and task-focused interpersonal citizenship behavior," by R.P. Settoon and K. W. Mossholder, 2002, *Journal of Applied Psychology, 87*, p. 260. Copyright 2002 by the American Psychological Association, Inc. Adapted with permission.

Appendix B

References of Adapted Items

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Appendix C

Rater Sorting Results of Interpersonal and Task-based Helping Items

Rater Sorting of Interpersonal-Based Helping Items by Categories.

Items	Emotional Support	Empathy	Negotiation	Proactive Helping	Mentoring	Shared Workload	Noncategorized
Emotional Support 1	4	0	0	0	0	0	1
Emotional Support 2	4	0	0	0	0	0	1
Emotional Support 3	4	1	0	0	0	0	0
Emotional Support 4	5	0	0	0	0	0	0
Emotional Support 5	4	0	0	0	0	0	1
Emotional Support 6	4	0	0	0	0	0	1
Emotional Support 7	4	1	0	0	0	0	0
Emotional Support 8	4	0	0	0	1	0	0
Emotional Support 9*	2	1	0	1	0	0	1
Emotional Support 10*	3	0	0	0	0	0	2
Empathy 1	1	4	0	0	0	0	0
Empathy 2	0	5	0	0	0	0	0
Empathy 3	0	5	0	0	0	0	0
Empathy 4	0	5	0	0	0	0	0
Empathy 5	1	4	0	0	0	0	0
Empathy 6	1	4	0	0	0	0	0
Empathy 7*	1	3	0	1	0	0	0
Empathy 8*	3	2	0	0	0	0	0
Empathy 9*	3	2	0	0	0	0	0
Empathy 10*	1	3	0	0	1	0	0
Empathy 11*	0	3	0	1	1	0	0
Negotiation 1	0	0	5	0	0	0	0
Negotiation 2	0	0	5	0	0	0	0
Negotiation 3	0	0	5	0	0	0	0
Negotiation 4	0	0	4	0	1	0	0
Negotiation 5	0	0	5	0	0	0	0
Negotiation 6	0	0	5	0	0	0	0
Negotiation 7	0	0	5	0	0	0	0
Negotiation 8*	0	0	3	0	1	0	1

Note: Table depicts frequency of rater (N=5) sorting of items (row) by category (column). Values highlighted in gray contain the number of raters that correctly categorized an item into its appropriate category. Items with an asterisk indicate items that did not meet the 4/5 rater agreement item inclusion criteria.

Appendix C (continued)

Rater Sorting of Task-Based Helping Items by Categories

	Emotional Support	Empathy	Negotiation	Proactive Helping	Mentoring	Shared Workload	Noncategorized
Proactive Helping 1	0	0	0	4	1	0	0
Proactive Helping 2	0	0	0	5	0	0	0
Proactive Helping 3	0	0	0	4	0	1	0
Proactive Helping 4	0	0	0	5	0	0	0
Proactive Helping 5	0	0	0	5	0	0	0
Proactive Helping 6	0	0	0	5	0	0	0
Proactive Helping 7*	0	0	0	3	2	0	0
Proactive Helping 8*	0	0	0	2	1	0	2
Proactive Helping 9*	0	0	0	3	2	0	0
Proactive Helping 10*	0	0	0	3	1	0	1
Mentoring 1	0	0	0	0	5	0	0
Mentoring 2	0	0	0	0	4	0	1
Mentoring 3	0	0	0	1	4	0	0
Mentoring 4	0	0	0	1	4	0	0
Mentoring 5	0	0	0	0	4	0	1
Mentoring 6	0	0	0	1	4	0	0
Mentoring 7	0	0	0	1	4	0	0
Mentoring 8	0	0	0	0	5	0	0
Mentoring 9	0	0	0	1	4	0	0
Mentoring 10	0	0	0	1	4	0	0
Mentoring 11*	1	0	0	1	3	0	0
Mentoring 12*	0	0	0	2	2	0	1
Mentoring 13*	0	0	0	3	2	0	0
Mentoring 14*	0	0	0	1	3	0	1
Mentoring 15*	0	0	3	0	0	1	1
Shared Workload 1	0	0	0	0	0	5	0
Shared Workload 2	0	0	0	0	0	5	0
Shared Workload 3	0	0	0	0	0	5	0
Shared Workload 4	0	0	0	0	0	5	0
Shared Workload 5	0	0	0	0	0	5	0
Shared Workload 6*	0	0	0	2	2	1	0
Shared Workload 7*	0	0	0	2	0	2	1
Shared Workload 8*	0	0	3	0	0	0	2

Note: Table depicts frequency of rater (N=5) sorting of items (row) by category (column). Values highlighted in gray contain the number of raters that correctly categorized an item into its appropriate category. Items with an asterisk indicate items that did not meet the 4/5 rater agreement item inclusion criteria.

Appendix C (Continued)

Card Sort Results of Deleted Helping Items labeled by Item Number Dimension, Helping Category

Deleted Item	Dimension	Helping Category
9. Share your enthusiasm with coworkers. *	Emotional Support	Interpersonal-based
10. Acknowledge coworkers' improvements in their work. *	Emotional Support	Interpersonal-based
7. Approach coworkers who are upset. *	Empathy	Interpersonal-based
8. Discuss personal issues that coworkers have. *	Empathy	Interpersonal-based
9. Try to comfort upset coworkers. *	Empathy	Interpersonal-based
10. Give advice to coworkers who are stressed out. *	Empathy	Interpersonal-based
11. Make time to help coworkers with work-related problems. *	Empathy	Interpersonal-based
8. Remind unruly coworkers that their behaviors have consequences. *	Negotiation	Interpersonal-based
7. "Show the ropes" to coworkers without being asked. *	Proactive Helping	Task-based
8. Keep coworkers informed about work-related events. *	Proactive Helping	Task-based
9. Approach coworkers with useful guidelines to perform a task. *	Proactive Helping	Task-based
10. Offer coworkers resources that will improve their work. *	Proactive Helping	Task-based
11. Help good coworkers get promoted. *	Mentoring	Task-based
12. Give coworkers facts/procedures to perform tasks. *	Mentoring	Task-based
13. Help improve a coworker's job environment. *	Mentoring	Task-based

Deleted Item	Dimension	Helping Category
14. Suggest improvements to accomplish tasks. *	Mentoring	Task-based
15. Encourage collaboration among coworkers. *	Mentoring	Task-based
6. Help coworkers figure out how to get through a heavy workload. *	Shared Workload	Task-based
7. Adjust your work schedule to give coworkers time off. *	Shared Workload	Task-based
8. Get workers together to get the job done. *	Shared Workload	Task-based

Appendix D

Card Sort Results of Helping Items labeled by Dimension, and Helping Category

Item	Dimension	Helping Category
1. Compliment coworkers' job performance.	Emotional Support	Interpersonal-based
2. Praise the success of coworkers.	Emotional Support	Interpersonal-based
3. Make coworkers feel good about themselves.	Emotional Support	Interpersonal-based
4. Make new employees feel good about their new job.	Emotional Support	Interpersonal-based
5. Make coworkers feel valuable to the organization.	Emotional Support	Interpersonal-based
6. Let coworkers know their hard work is appreciated.	Emotional Support	Interpersonal-based
7. Recognize coworkers' persistence in getting their job done right.	Emotional Support	Interpersonal-based
8. Provide coworkers with positive feedback when appropriate.	Emotional Support	Interpersonal-based
1. Listen to coworkers' problems.	Empathy	Interpersonal-based
2. Show sympathy when a coworker expresses a problem.	Empathy	Interpersonal-based
3. Let coworkers 'vent' their troubles to you.	Empathy	Interpersonal-based
4. Try to understand coworkers' problems.	Empathy	Interpersonal-based
5. Listen to and share similar personal experiences with coworkers.	Empathy	Interpersonal-based
6. Care about coworkers' feelings.	Empathy	Interpersonal-based
1. Help resolve disagreements between coworkers.	Negotiation	Interpersonal-based

Item	Dimension	Helping Category
2. Help coworkers overcome differences with one another.	Negotiation	Interpersonal-based
3. Mediate arguments between coworkers.	Negotiation	Interpersonal-based
4. Advise coworkers over confrontations with colleagues.	Negotiation	Interpersonal-based
5. Settle disagreements between coworkers.	Negotiation	Interpersonal-based
6. Help coworkers reach a fair compromise when they argue.	Negotiation	Interpersonal-based
7. Encourage coworkers to get along with each other.	Negotiation	Interpersonal-based
1. Help coworkers on tasks without being asked.	Proactive Helping	Task-based
2. Volunteer your help when a coworker seems to need it.	Proactive Helping	Task-based
3. Try to help coworkers during your free time.	Proactive Helping	Task-based
4. Actively seek out coworkers that might need help.	Proactive Helping	Task-based
5. Ask coworkers if they need your help.	Proactive Helping	Task-based
6. Offer help without being asked.	Proactive Helping	Task-based
1. Mentor coworkers.	Mentoring	Task-based
2. Give constructive feedback to coworkers on their work.	Mentoring	Task-based
3. Help coworkers develop their job skills.	Mentoring	Task-based
4. Answer questions coworkers have about doing their job.	Mentoring	Task-based
5. Share your experience and expertise with coworkers.	Mentoring	Task-based
6. Spend time working with coworkers that need to improve their skills.	Mentoring	Task-based
7. Help coworkers figure out how to be more productive.	Mentoring	Task-based
8. Give coworkers advice on improving their career, not just their	Mentoring	Task-based

daily work.		
9. Provide networking opportunities for coworkers.	Mentoring	Task-based
10. Notify coworkers when job opportunities arise.	Mentoring	Task-based
1. Do some of a coworker's work if they need to catch up.	Shared Workload	Task-based
2. Help coworkers finish up difficult tasks.	Shared Workload	Task-based
3. Take on extra work if coworkers are overloaded.	Shared Workload	Task-based
4. Offer to do some of a coworker's work.	Shared Workload	Task-based
5. Do some of a coworker's work to meet his/her new deadline.	Shared Workload	Task-based

Rewording of Items to Reflect a Student Sample

Item	Dimension	Helping Category
1. Make coworkers feel good about themselves.	Proactive Emotional Support	Interpersonal-based
Make students feel good about themselves.		
2. Make new employees feel good about their new job.	Proactive Emotional Support	Interpersonal-based
Make new incoming students feel welcomed at Rice.		
5. Make coworkers feel valuable to the organization.	Proactive Emotional Support	Interpersonal-based
Make students feel valuable to Rice University.		
6. Let coworkers know their hard work is appreciated.	Proactive Emotional Support	Interpersonal-based
Let classmates know their hard work in class assignments is commendable.		
7. Recognize coworkers' persistence in getting their job done right.	Proactive Emotional Support	Interpersonal-based
Recognize a classmate's persistence in getting their assignments done right.		
8. Provide coworkers with positive feedback when appropriate.	Proactive Emotional Support	Interpersonal-based
Provide students with positive feedback when appropriate.		
1. Listen to coworkers' problems.	Passive/Reactive Emotional Support	Interpersonal-based
Listen to students' problems.		
2. Show sympathy when a coworker expresses a problem.	Passive/Reactive Emotional Support	Interpersonal-based
Show sympathy when a student expresses a problem.		
3. Let coworkers 'vent' their troubles to you.	Passive/Reactive Emotional	Interpersonal-based

Item	Dimension	Helping Category
Let students 'vent' their troubles to you.	Support	
4. Try to understand coworkers' problems.	Passive/Reactive Emotional Support	Interpersonal-based
Try to understand students' problems.		
5. Listen to and share similar personal experiences with coworkers.	Passive/Reactive Emotional Support	Interpersonal-based
Listen to and share similar personal experiences with students.		
6. Care about coworkers' feelings.	Passive/Reactive Emotional Support	Interpersonal-based
Care about students' feelings.		
1. Help resolve disagreements between coworkers.	Negotiation	Interpersonal-based
Help resolve disagreements between two or more students.		
2. Help coworkers overcome differences with one another.	Negotiation	Interpersonal-based
Help students overcome differences with one another.		
3. Mediate arguments between coworkers.	Negotiation	Interpersonal-based
Mediate arguments between students.		
4. Advise coworkers over confrontations with colleagues.	Negotiation	Interpersonal-based
Advise students over confrontations with students.		
5. Settle disagreements between coworkers.	Negotiation	Interpersonal-based
Settle disagreements between students.		
6. Help coworkers reach a fair compromise when they argue.	Negotiation	Interpersonal-based
Help students reach a fair compromise when they argue.		
7. Encourage coworkers to get along with each other.	Negotiation	Interpersonal-based
Encourage students to get along with each other.		
1. Help coworkers on tasks without being asked.	Proactive	Task-based

Item	Dimension	Helping Category
Help students on assignments without being asked.	Helping	
2. Volunteer your help when a coworker seems to need it.	Proactive Helping	Task-based
Volunteer your help when a student seems to need it.		
3. Try to help coworkers during your free time.	Proactive Helping	Task-based
Try to help students during your free time.		
4. Actively seek out coworkers that might need help.	Proactive Helping	Task-based
Actively seek out students that might need your help.		
5. Ask coworkers if they need your help.	Proactive Helping	Task-based
Ask students if they need your help.		
6. Offer your help without being asked.	Proactive Helping	Task-based
Offer your help to a student/classmate without being asked.		
1. Mentor coworkers.	Mentoring	Task-based
Mentor students.		
2. Give constructive feedback to coworkers on their work.	Mentoring	Task-based
Give constructive feedback to classmates on their assignments.		
3. Help coworkers develop their job skills.	Mentoring	Task-based
Help students develop studying skills.		
4. Answer questions coworkers have about doing their job.	Mentoring	Task-based
Answer questions students have about doing a class assignment.		
5. Share your experience and expertise with coworkers.	Mentoring	Task-based
Share your experience and expertise with students.		
6. Spend time working with coworkers that need to improve their skills.	Mentoring	Task-based
Spend time working with students that need to improve their grades.		
7. Help coworkers figure out how to be more productive.	Mentoring	Task-based

Help students figure out how to be more productive.		
8. Give coworkers advice on improving their career, not just their daily work.	Mentoring	Task-based
Give students advice on improving their major GPA not just their daily class work.		
9. Provide networking opportunities for coworkers.	Mentoring	Task-based
Provide networking opportunities for students.		
10. Notify coworkers when job opportunities arise.	Mentoring	Task-based
Notify students when scholastic (e.g., internship) opportunities arise.		
1. Do some of a coworker's work if they need to catch up.	Shared Workload	Task-based
Do some of a group mate's work if they need to catch up on their class work.		
2. Help coworkers finish up difficult tasks.	Shared Workload	Task-based
Help group mates finish up difficult assignments.		
3. Take on extra work if coworkers are overloaded.	Shared Workload	Task-based
Take on extra work if group mates are overloaded.		
4. Offer to do some of a coworker's work.	Shared Workload	Task-based
Offer to do some of a group mate's group assignment.		
5. Do some of a coworker's work to meet his/her new deadline.	Shared Workload	Task-based
Do some of a group mate's assignment to meet his/her new deadline.		

Appendix E
Measures

Big Five-Personality Measure: Goldberg (1999)

Personality Factors	Items
Factor I (Surgency or Extraversion)	10-item scale (α = .87)
Positively keyed	Am the life of the party. Feel comfortable around people. Start conversations. Talk to a lot of different people at parties. Don't mind being the center of attention.
Negatively keyed	Don't talk a lot. Keep in the background. Have little to say. Don't like to draw attention to myself. Am quiet around strangers.
Factor II (Agreeableness)	10-item scale (α = .82)
Positively keyed	Am interested in people. Sympathize with others' feelings. Have a soft heart. Take time out for others. Feel others' emotions. Make people feel at ease.
Negatively keyed	Am not really interested in others. Insult people. Am not interested in other people's problems. Feel little concern for others.
Factor III (Conscientiousness)	10-item scale (α = .79)
Positively keyed	Am always prepared. Pay attention to details. Get chores done right away. Like order. Follow a schedule. Am exacting in my work.
Negatively keyed	Leave my belongings around. Make a mess of things. Often forget to put things back in their proper place. Shirk my duties.
Factor IV (Emotional Stability)	10-item scale (α = .86)
Positively keyed	Am relaxed most of the time. Seldom feel blue.
Negatively keyed	Get stressed out easily. Worry about things. Am easily disturbed. Get upset easily. Change my mood a lot. Have frequent mood swings. Get irritated easily. Often feel blue.
Factor V (Intellect or Imagination)	10-item scale (α = .84)
Positively keyed	Have excellent ideas. Am quick to understand things. Use difficult words. Spend time reflecting on things. Am full of ideas. Have a rich vocabulary. Have a vivid imagination.
Negatively keyed	Have difficulty understanding abstract ideas. Am not interested in abstract ideas. Do not have a good imagination.

Appendix E (continued)

College Satisfaction scale

(Lounsbury, Saudargas, Gibson, & Leong, 2005)

Items Assessing Level of College Satisfaction

College Satisfaction Items
How much you are learning in school
Your rate of progress toward a college degree
The availability of courses you want or need
The general quality of professors you have taken courses from
The availability and quality of academic advisors
Your academic major
Your GPA

Note: Items were made on a seven-point Likert scale: 1--Very Dissatisfied, 2--Dissatisfied, 3--Slightly Dissatisfied, 4--Neutral, 5--Slightly Satisfied, 6--Satisfied, 7--Very Satisfied.

Appendix E (continued)

Perceived Cohesion scale

(Bollen & Hoyle, 1990)

Sense of Belonging

1. I feel a sense of belonging to _____.

0	1	2	3	4	5	6	7	8	9	10
Strongly Disagree					Neutral					Strongly Agree

2. I feel that I am a member of the _____ community.

0	1	2	3	4	5	6	7	8	9	10
Strongly Disagree					Neutral					Strongly Agree

3. I see myself as part of the _____community.

0	1	2	3	4	5	6	7	8	9	10
Strongly Disagree					Neutral					Strongly Agree

Feelings of Morale

4. I am enthusiastic about _____.

0	1	2	3	4	5	6	7	8	9	10
Strongly Disagree					Neutral					Strongly Agree

5. I am happy to be at [live in] _____.

0	1	2	3	4	5	6	7	8	9	10
Strongly Disagree					Neutral					Strongly Agree

6. _____ is one of the best schools [cities] in the nation.

0	1	2	3	4	5	6	7	8	9	10
Strongly Disagree					Neutral					Strongly Agree

Note: Participants will be asked to substitute the blanks with the name of their residential college with three exceptions. Blanks in item one and four will be substituted with "the student cohort in my residential college," and item six will be reworded as: " [Name of your residential college] is one of the best colleges in Rice University."

Appendix E (continued)

Perceived Stress scale

(Cohen & Williamson, 1988)

0 = Never 1 = Almost Never 2 = Sometimes 3 = Fairly Often 4 = Very Often

1. In the last month, how often have you been upset because of something that happened unexpectedly?	0	1	2	3	4
2. In the last month, how often have you felt that you were unable to control the important things in your life?	0	1	2	3	4
3. In the last month, how often have you felt nervous and "stressed"?	0	1	2	3	4
4. In the last month, how often have you felt confident about your ability to handle your personal problems?	0	1	2	3	4
5. In the last month, how often have you felt that things were going your way?	0	1	2	3	4
6. In the last month, how often have you found that you could not cope with all the things that you had to do?	0	1	2	3	4
7. In the last month, how often have you been able to control irritations in your life?	0	1	2	3	4
8. In the last month, how often have you felt that you were on top of things?	0	1	2	3	4
9. In the last month, how often have you been angered because of things that were outside of your control?	0	1	2	3	4
10. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?	0	1	2	3	4

Note: Each statement beginning with "In the last month" will be substituted with "Since your past semester until now."

Appendix E (continued)

Multidimensional Scale of Perceived Social Support

(Zimet, Dahlem, Zimet, & Farley, 1988)

Circle the "1" if you **Very Strongly Disagree**
Circle the "2" if you **Strongly Disagree**
Circle the "3" if you **Mildly Disagree**
Circle the "4" if you are **Neutral**
Circle the "5" if you **Mildly Agree**
Circle the "6" if you **Strongly Agree**
Circle the "7" if you **Very Strongly Agree**

1.	There is a special person who is around when I am in need.	1	2	3	4	5	6	7	SO
2.	There is a special person with whom I can share my joys and sorrows.	1	2	3	4	5	6	7	SO
3.	My family really tries to help me.	1	2	3	4	5	6	7	Fam
4.	I get the emotional help and support I need from my family.	1	2	3	4	5	6	7	Fam
5.	I have a special person who is a real source of comfort to me.	1	2	3	4	5	6	7	SO
6.	My friends really try to help me.	1	2	3	4	5	6	7	Fri
7.	I can count on my friends when things go wrong.	1	2	3	4	5	6	7	Fri
8.	I can talk about my problems with my family.	1	2	3	4	5	6	7	Fam
9.	I have friends with whom I can share my joys and sorrows.	1	2	3	4	5	6	7	Fri
10.	There is a special person in my life who cares about my feelings.	1	2	3	4	5	6	7	SO
11.	My family is willing to help me make decisions.	1	2	3	4	5	6	7	Fam
12.	I can talk about my problems with my friends.	1	2	3	4	5	6	7	Fri

The items tended to divide into factor groups relating to the source of the social support, namely family (Fam), friends (Fri) or significant other (SO).

Note: As mentioned in this thesis, item in factor groups reflecting friends and significant other will be used.